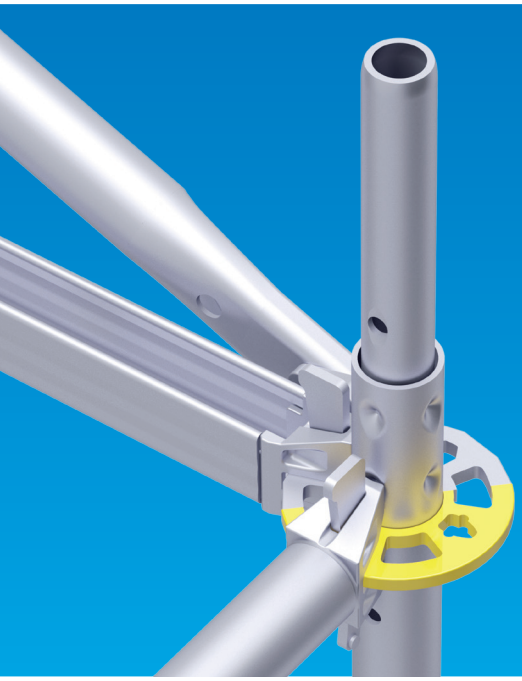
ALFIX
SECURELY SCAFFOLDED



NATIONAL TECHNICAL APPROVAL

ALBLITZ MODUL

Notification

Approval Body for Construction Products & Types of Construction
Bautechnisches Prüfamt (Structural Engineering Testing Body)
A public agency managed jointly by the Federal and Länder (State) Governments
Member of the EOTA, UEAtc and WFTAO

of amendments and the extension of the period of validity of the national technical approval of 7 May 2017

Date:	**Reference number:**
26 May 2017	**37-1-1.8.22-10/17**

Approval number:

Z-8.22-913

Period of validity

from: **8 May 2017**
to: **8 May 2022**

Applicant:

Alfix GmbH
Langhennersdorfer Straße 15
D-09603 Großschirma
Germany

Subject to be approved:
"ALBLITZ MODUL" Modular System

This notification shall change and extend the period of validity of national technical approval no. Z-8.22-913 of 7 May 2012. This national technical approval includes 6 pages and 4 annexes. It shall only be valid in connection with the above mentioned national technical approval and shall only be used in conjunction with it.

Translation of the German original not reviewed by Deutsches Institut für Bautechnik

DIBt | Kolonnenstrasse 30 B | D–10829 Berlin | Phone: +49 30 78730–0 | Fax: +49 30 78730–320 | e-mail: dibt@dibt.de | www.dibt.de

Ref. to I GENERAL PROVISIONS

The general provisions of the national technical approval shall be replaced by the following:

1 The national technical approval shall serve as the verification of the usability or applicability of the subject to be approved as defined by the Buildings Regulations of the Land.

2 The national technical approval shall not replace the statutory approvals, permits and certificates required for executing building projects.

3 The national technical approval shall be granted without prejudice to any third party rights, in particular private protective property rights.

4 The manufacturer and the distributor of the approval subject shall provide the users of the approval subject, without prejudice of any further extensive regulations outlined in the "Special Provisions", with copies of the national technical approval and indicate that this approval must be available at the site of use. On request, copies of the national technical approval shall be made available to the authorities involved.

5 Only complete sets of the national technical approval may be reproduced. A publication in extracts shall be subject to the prior consent of Deutsches Institut für Bautechnik. Any wording and drawings of advertising material shall not be contradictory to the national technical approval. Translations of such approval must be marked with "Translation of the German original not reviewed by Deutsches Institut für Bautechnik".

6 The national technical approval will be granted revocably. The provisions of this national technical approval may be amended or changed subsequently, especially if new technological findings require this.

Ref. to II SPECIAL PROVISIONS

The special provisions of the national technical approval shall be replaced by the following:

1. Section 1 shall be replaced by the following:

1 Subject and Scope of Application

The subject of this national technical approval is the modular system "ALBLITZ MODUL" to be used as working and safety scaffolding s, supporting scaffolding s as well as other temporary constructions. The assembly, modification and dismantling of scaffolding s shall not be part of this national technical approval.

The modular system consists of uprights (standards), ledgers, vertical and horizontal diagonal braces and decks as basic components and of system components for side protection, as well as access and supplementary components. The uprights, ledgers and diagonal braces are interconnected by special scaffolding connectors (nodes) of different design.

The manufacturing of the scaffolding connector's (nodes') individual parts is regulated by national technical approvals Z-8.22-64 and Z-8.22-906, the manufacturing of the scaffolding components by national technical approvals Z-8.1-16.2, Z-8.22-64, Z-8.1-862 or Z-8.22-906.

The scaffolding connectors (nodes) consist of a connecting or perforated disc that is welded to an upright tube, and connecting heads that are welded to tubular ledgers or flexibly attached to vertical diagonal braces. The connecting heads embrace the connecting or perforated disc and are pressed to the connecting or perforated disc by driving in a captive wedge so that the connecting heads are pressed against the upright tube.

A maximum of eight tubes can be connected to each connecting or perforated disc.

For stability proof of working and safety scaffolding s, the DIN EN 12811-1:2004-03 requirements shall apply in connection with the "Application guideline for working scaffolding s according to DIN EN 12811-1"[1]. For stability proof of supporting scaffolding s the DIN EN 12812:2008-12 requirements shall apply in connection with the "Application guideline for supporting scaffolding s according to DIN EN 12812"[2]. The characteristic values to be used for the stability proof are given in this national technical approval.

For applications of scaffolding components in façade scaffolding, standard designs are described for which stability proofs of the fully assembled scaffolding configurations have been provided. Deviating designs require separate proof. The standard designs are applicable for façade scaffolding with erection heights of up to 24 m above ground plus spindle jack extension length. The scaffolding system can be utilized in the standard designs with a system width of b = 0.732 m and with bay widths of $\ell \leq 3.07$ m for working scaffolding s belonging to the load classes ≤ 3 in accordance with DIN EN 12811-1:2004-03, and as safety and roof safety scaffolding in accordance with DIN 4420-1:2004-03.

[1] see DIBt-Mitteilungen, Issue 2/2006, p. 66 et seq.
[2] see DIBt-Mitteilungen, Issue 6/2009, pages 227-230

2. Table 1 shall be replaced by table 1a:

Table 1a: Individual parts of the scaffolding connectors

Part	Type / Design	Annex B, page	Regulations for manufacturing, marking and proof of compliance / conformity
Connecting disc	ALFIX MODUL MULTI	2	pursuant to Z-8.22-906
Perforated disc	K2000+	117	pursuant to Z-8.22-64
Wedge	ALFIX MODUL MULTI	3	pursuant to Z-8.22-906
	K2000+	122	pursuant to Z-8.22-64
Tube ledger connection	ALFIX MODUL MULTI	4	pursuant to Z-8.22-906
Connecting head for O-ledger	K2000+	118	pursuant to Z-8.22-64
U-ledger connection	ALFIX MODUL MULTI	5	pursuant to Z-8.22-906
Connecting head for U-ledger	K2000+	119	pursuant to Z-8.22-64
Connecting head for U-bracket		120	
V-diagonal brace connection	ALFIX MODUL MULTI	6	pursuant to Z-8.22-906
Connecting head for diagonal brace	K2000+	121	pursuant to Z-8.22-64
H-diagonal brace connection	ALFIX MODUL MULTI	7	pursuant to Z-8.22-906

3. In table 2 the following rows shall be replaced:

Table 2: Scaffolding components to be used in the "ALBLITZ MODUL" modular system

Designation	Annex B, page	Regulations for manufacturing, marking and proof of compliance / conformity
U-toe board, wood 0.73-3.07 m	130a	pursuant to Z-8.22-939
U-toe board, steel 0.73-3.07 m	131a	
Stair guardrail 2.57; 3.07 m	142a	
Stair guardrail holder	143a	

4. In table 2 the following rows shall be deleted:

Table 2: Scaffolding components to be used in the "ALBLITZ MODUL" modular system

Designation	Annex B, page	Regulations for manufacturing, marking and proof of compliance / conformity
Horizontal diagonal brace	136	pursuant to Z-8.22-64
O-ledger with half coupler	145	
O-ledger HD	147	

5. The third paragraph of section 3.2.1 shall be replaced by the following:

In the connection of a ledger, normal forces as well as bending moments and lateral forces may be transferred on the level of the upright tube/ledger and the level at a right angle to it. For the verification calculation of the scaffolding system it is important that the bending moment of the connection of ledger and upright tube refers to the outer edge of the upright tube. For short ledgers L < 0.60 m, the connections must be assumed pin-jointed. In this case, only normal forces and lateral forces may be transferred.

6. Section 3.3.6 shall be replaced by the following:

3.3.6 Scaffolding spindles

The equivalent cross-section values for the stress or interaction analyses, and the calculations of distortion according to DIN 4425:1990-11 (Annex B of DIN EN 12811-1:2004-03) shall be assumed as follows for scaffolding spindles (base jacks):

for the scaffolding spindles according to Annex B, page 83:

$A = A_S$ = 3.52 cm²
I = 4.00 cm⁴
W_{el} = 2.68 cm³
W_{pl} = 1.25 · 2.68 = 3.35 cm³

for the scaffolding according to Annex B, page 151:

$A = A_S$ = 3.84 cm²
I = 3.74 cm⁴
W_{el} = 2.61 cm³
W_{pl} = 1.25 · 2.61 = 3.26 cm³

For the proof of the load-bearing capacities of the spindles the cosine-interaction according to DIN 4420-1:1990-12, table 7 may be applied.

7. Section 3.3.7 shall be replaced by the following:

3.3.7 Couplers

For the proof of the half couplers attached to the various components, the load capacities and stiffnesses for class B half couplers shall be applied according to the specifications of the DIN EN 74-2:2009-01 standard.

8. Section 4.1 shall be replaced by the following:

4.1 General

The execution and inspection of the scaffolding s is not the subject matter of this National Technical Approval.

The assembly, modification and dismantling of scaffolding s shall be in accordance with the instructions for erection and use[3].

9. Section 4.3.7 shall be replaced by the following:

4.3.7 Couplers

Threaded joint couplers must be fixed to the uprights with a tightening torque of 50 Nm; deviations of ± 10 % are admissible. The screws must be maintained in accordance with the manufacturer's instructions for use so that they can be easily moved.

Ref. to ANNEX B

10. In annex B, pages 130, 131, 142 and 143 shall be replaced by pages 130a, 131a, 142a, and 143 a.

11. Pages 136, 145, and 147 shall be deleted from annex B.

Ref. to ANNEX C

12. In table C.1, the following rows shall be replaced:

Table C.1: Components of standard design

Designation	Annex B, page
U-toeboard, wood 0.73-3.07 m	130a
U-toeboard, steel 0.73-3.07 m	131a

13. In table C.1, the following rows shall be deleted:

Table C.1: Components of standard design

Designation	Annex B, page
Horizontal diagonal brace	136

BD Dipl.-Ing. Andreas Kummerow
Head of Department

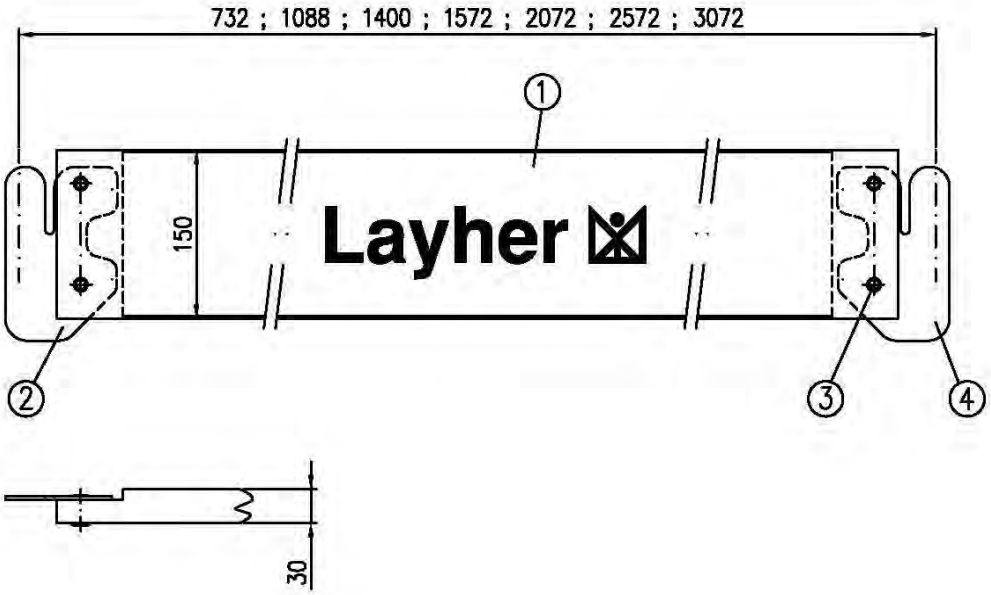
Authorized

>*signed*<

>Seal: Deutsches Institut für Bautechnik<

3 The instructions for erection and use shall be in accordance with the specifications of the "Application guideline for working scaffolding s according to DIN EN 12811-1", to be obtained from the DIBT-Mitteilungen, Issue 2/2006

Deutsches Institut für Bautechnik DIBt



			Dim. [m]	Weight [kg]
① Wood	30x150	DIN 4074-S10-Fi	0.73	1.5
② Fitting	t=2.5	EN 10326-S250GD	1.09	2.5
③ Truss-head rivet	ø8x30	EN 10263-2	1.40	3.4
④ Marking			1.57	3.5
			2.07	4.3
			2.57	5.7
			3.07	6.3

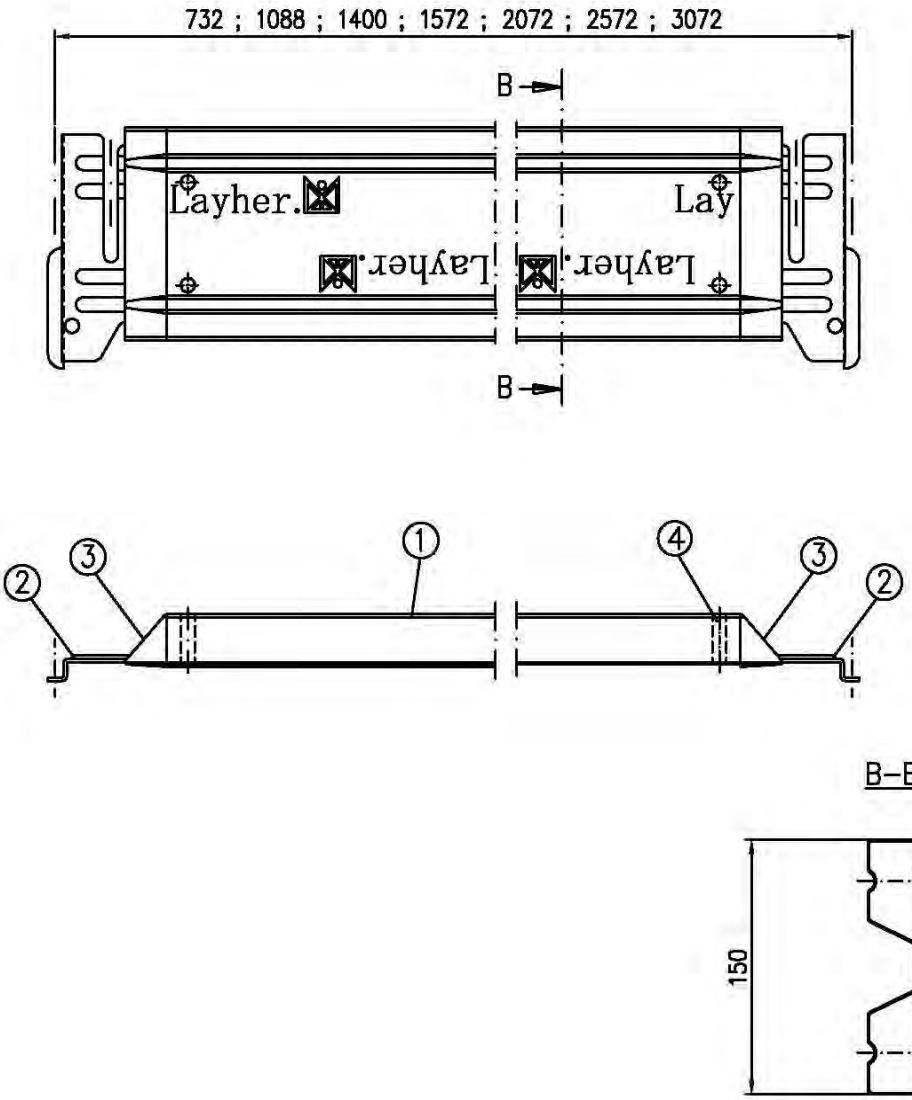
ALBLITZ MODUL

"U"-toeboard, wood 0.73-3.07 m
pursuant to Z-8.22-939

ABM710-B038a 05.2017

Annex B,
page 130a

Deutsches Institut für Bautechnik DIBt



				Dim. [m]	Weight [kg]
①	Profiled sheet plate	30x150	EN 10326–S250	0.73	1.8
②	Fitting	t=2.5	EN 10326–S250	1.09	2.5
③	Platsic cap	151x31		1.40	3.1
④	Tubular rivet	A 10x1x35	EN 10305–1–E235	1.57	3.4
				2.07	4.4
				2.57	5.4
				3.07	6.3

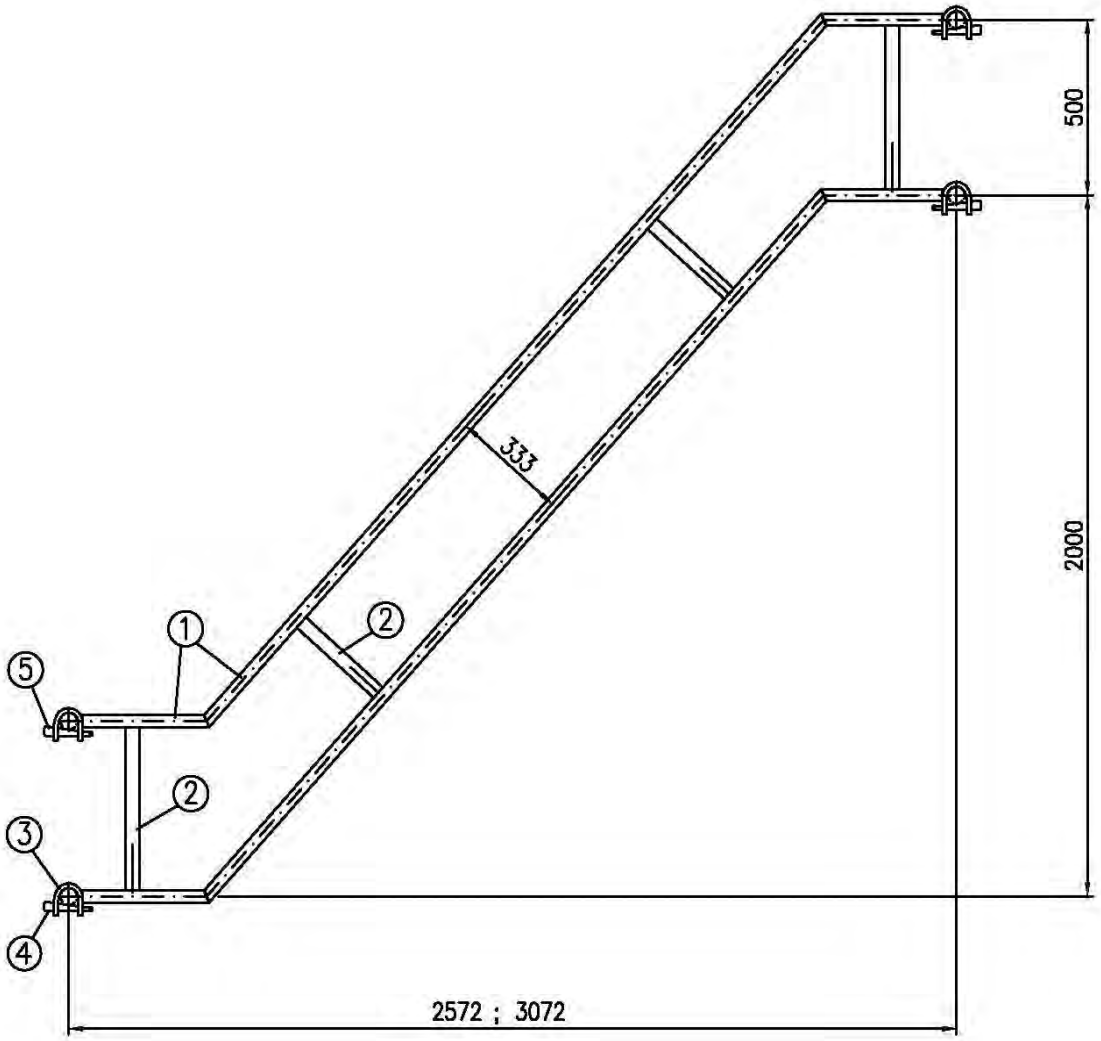
ALBLITZ MODUL

"U"–toeboard, steel 0.73–3.07 m
pursuant to Z–8.22–939

ABM710–B039a 05.2017

Annex B,
page 131a

Deutsches Institut für Bautechnik DIBt



			Dim. [m]	Weight [kg]
① Tube	ø33.7x2.25	EN 10219-S235JRH	2.57	18.1
② Rectangular tube	40x20x2	EN 10025-S235JR	3.07	20.1
③ Locking-U	t=8	EN 10025-S235JR		
④ Marking				

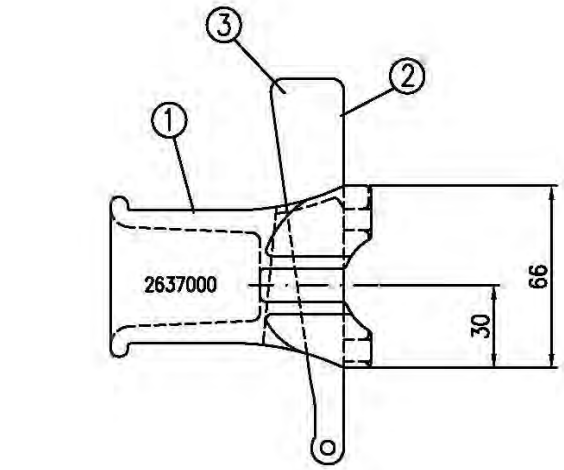
ALBLITZ MODUL

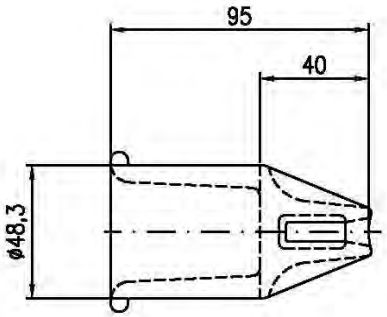
Stair guardrail 2.57 ; 3.07 m
pursuant to Z-8.22-939

ABM710-B073a 05.2017

Annex B,
page 142a

Deutsches Institut für Bautechnik DIBt





Dim. [m]	Weight [kg]
	0.7

① Head piece — EN 1562–GJMW–450–7
② Wedge — (see Annex B, page 122)
③ Marking

ALBLITZ MODUL

Stair guardrail holder
pursuant to Z–8.22–939

ABM710–B074a 05.2017

Annex B,
page 143a

National Technical Approval

Approval Body for Construction Products & Types of Construction
Bautechnisches Prüfamt (Structural Engineering Testing Body)
An institution managed jointly by the Federal and Länder Governments
Member of the European Organisation for Technical Approvals (EOTA)
and of the European Union of Agrément (UEAtc) and the World Federation
of Technical Assessment Organisations

Date: **7 May 2012**
Reference number: **33-1.8.22-28/11**

Approval number:

Z-8.22-913

Period of validity

from: **7 May 2012**
to: **7 May 2017**

Applicant:

ASB Produktions GmbH
Langhennersdorfer Straße 15
D-09603 Großschirma
Germany

Subject to be approved:
"ALBLITZ MODUL" Modular System

Translation of the German original not reviewed by Deutsches Institut für Bautechnik.

The above mentioned subject is hereby granted national technical approval. This national technical approval includes 23 pages as well as Annex A (pages 1 to 2), Annex B (pages 1 to 165), Annex C (pages 1 to 8).
This national technical approval replaces national technical approval no. Z-8.1-913 of 10 April 2007, last amended by notification of 9 November 2009. On 10 April 2007, the above mentioned subject was granted national technical approval for the first time.

I GENERAL PROVISIONS

1 The national technical approval shall serve as the verification of the usability or applicability of the subject to be approved as defined by the Buildings Regulations of the Land[1].

2 Provided that within the national technical approval particular demands are placed on the expertise and experience of people involved in the manufacturing of construction products and system according to the respective regulations of the Land pursuant to Section 17 paragraph 5 Model Building Code[2], it must be observed that said expertise and experience can also be verified through equal evidences of other Member States of the European Union. This shall also apply to equal evidences provided within the framework of the Agreement on the European Economic Area (EEA)[3] or other bilateral agreements, if applicable.

3 The national technical approval shall not replace the statutory approvals, permits and certificates required for executing building projects.

4 The national technical approval shall be granted without prejudice to any third party rights, in particular private protective property rights.

5 The manufacturer and the distributor of the approval subject shall provide the users of the approval subject, without prejudice of any further extensive regulations outlined in the "Special Provisions", with copies of the national technical approval and indicate that this approval must be available at the site of use. On request, copies of the national technical approval shall be made available to the authorities involved.

6 Only complete sets of the national technical approval may be reproduced. A publication in extracts shall be subject to the prior consent of Deutsches Institut für Bautechnik. Any wording and drawings of advertising material shall not be contradictory to the national technical approval. Translations of such approval must be marked by "Translation of the German original not reviewed by Deutsches Institut für Bautechnik".

7 The national technical approval will be granted revocably. The provisions of this approval may be amended or changed subsequently, especially if new technological findings require this.

[1] Landesbauordnungen
[2] Musterbauordnung
[3] Abkommen über den Europäischen Wirtschaftsraum (EWR)

II SPECIAL PROVISIONS

1 Subject and Scope of Application

The subject of this national technical approval is the modular system "ALBLITZ MODUL" for the erection of working and safety scaffolds, supporting scaffolds as well as other temporary constructions.

The modular system consists of uprights (standards), ledgers, vertical and horizontal diagonal braces and decks as basic components and of system components for side protection, of access and supplementary components. The uprights, ledgers and diagonal braces are interconnected by special scaffold connectors (nodes) of different design.

The manufacturing of the scaffold connector's individual parts is regulated by national technical approvals Z-8.22-64 and Z-8.22-906, the manufacturing of the scaffold components - by national technical approvals Z-8.1-16.2, Z-8.22-64, Z-8.1-862 or Z-8.22-906.

The scaffold connectors (nodes) consist of a connecting or perforated disc that is welded to an upright tube, and connecting heads that are welded to tubular ledgers or flexibly attached to vertical diagonal braces. The connecting heads embrace the connecting or perforated disc and are pressed to the connecting or perforated disc by driving in a captive wedge so that the connecting heads are pressed against the upright tube.

A maximum of eight members can be connected to each connecting or perforated disc.

For stability proof of working and safety scaffolds, the DIN 12811-1:2004-03 requirements shall apply in connection with the "Application guideline for working scaffolds according to DIN EN 12811-1"[1], and for stability proof of supporting scaffolds the DIN 12812:2008-12 requirements shall apply in connection with the "Application guideline for supporting scaffolds according to DIN EN 12812"[2]. The connector load and stiffness to be used for the stability proof are given in this national technical approval.

For applications of scaffold components in façade scaffoldings, standard designs are described for which stability proof has been provided. Deviating designs require separate proof. The standard designs are applicable for façade scaffoldings with erection heights of up to 24 m above ground plus base jack extension length. The scaffolding system can be utilized in the standard designs with a system width of b = 0.732 m and with bay widths of $\ell \leq 3.07$ m for working scaffolds belonging to the load classes ≤ 3 in accordance with DIN EN 12811-1:2004-03, and as safety and roof safety scaffolding in accordance with DIN 4420-1:2004-03.

2 Scaffold Component Requirements

2.1 Features

2.1.1 General

The individual parts of scaffold connector as per Table 1 and the scaffolding components as per Table 2 shall comply with the specifications given in Annex B.

For manufacturing, marking and proof of compliance/conformity of both the individual parts of scaffold connector and of scaffolding components, the national technical approvals stated in Tables 1 and 2 shall be authoritative.

[1] see DIBt-Mitteilungen, Issue 2/2006, p. 66 et seq.
[2] see DIBt-Mitteilungen, Issue 6/2009, pages 227-230

Table 1: Individual parts of scaffold connectors

Part	Type / Design	Annex B, page	Regulations for manufacturing, marking and proof of compliance / conformity
Connecting disc	ALFIX MODUL plus II	2	pursuant to Z-8.22-906
Perforated disc	K2000+	117	pursuant to Z-8.22-64
Wedge	ALFIX MODUL plus II K2000+	3 122	pursuant to Z-8.22-906 pursuant to Z-8.22-64
Tube ledger connection	ALFIX MODUL plus II	4	pursuant to Z-8.22-906
Connecting head for O-ledger	K2000+	118	pursuant to Z-8.22-64
U-ledger connection	ALFIX MODUL plus II	5	pursuant to Z-8.22-906
Connecting head for U-ledger	K2000+	119	pursuant to Z-8.22-64
Connecting head for U-bracket		120	
Connection for vertical diagonal brace	ALFIX MODUL plus II	6	pursuant to Z-8.22-906
Connecting head for vertical diagonal brace	K2000+	121	pursuant to Z-8.22-64
Connection for horizontal diagonal brace	ALFIX MODUL plus II	7	pursuant to Z-8.22-906
Connecting head for horizontal diagonal brace	K2000+	123	pursuant to Z-8.22-64

Table 2: Scaffold components to be used in the "ALBLITZ MODUL" modular system

Designation	Annex B, page	Regulations for manufacturing, marking and proof of compliance / conformity
Vertical diagonal braces	8	pursuant to Z-8.22-906
Horizontal diagonal braces	9	
Vertical starter piece	10	
Vertical upright with spigot fitting 200	11	
Vertical upright with detachable spigot fitting 520	12	
Tube ledger	13	
Tube ledger, reinforced	14	
U-transom 0.73 m	15	
U-transom, reinforced 1.09 m, 1.40 m	16	
Aluminium frame platform RE 1.57 m, 2.07 m	17	
Aluminium frame platform RE 2.57 m, 3.07 m	18	
Aluminium frame platform with access hatch RE 2.57 m	20	
Aluminium frame platform with access hatch RE 3.07 m	21	

Table 2: (continued)

Designation	Annex B, page	Regulations for manufacturing, marking and proof of compliance / conformity
Steel plank AF RE 0.32 m	23	pursuant to Z-8.22-906
Steel plank RE	24	
Intermediate deck RE	25	
Steel plank AF RE 0.30 m; 0.34 m	26	
Intermediate deck AF RE 0.16 m; 0.19 m	27	
Modular toeboard	28	
Bracket 0.39 m RE	29	
Modular bracket 0.39 m	30	
Modular safety net	31	
Wedge head coupler, turnable	32	
Modular deck retainer	33	
Modular gap cover RE	34	
Modular lattice girder 6.14 m	35	
Modular lattice girder 4.14 m / 5.14 m	36	
Modular lattice girder with spigot fitting 6.14 m	37	
Modular lattice girder with spigot fitting 4.14 m / 5.14 m	38	
Modular spigot fitting U	39	
U-transom GT 0.73 m / 1.09 m V	40	
Tube transom GT 0.73 m / 1.09 m V	41	
Modular spigot fitting	42	
Base jack, swivelling	43	
Head spindle U	44	
Locking device for base jack	45	
Intermediate deck ledger RE – M	46	
Intermediate deck ledger RE – R	47	
Decking and planking ledger RE	48	
Intermediate deck ledger – M	49	
Intermediate deck ledger – R	50	
Decking and planking ledger	51	
Wedge head coupler, fixed	52	
Modular safety door	53	
U-bridging ledger 1.57 m	54	
U-bridging ledger 2.07 m	55	
U-bridging ledger 2.57 m	56	

Table 2: (continued)

Designation	Annex B, page	Regulations for manufacturing, marking and proof of compliance / conformity
U-bridging ledger 3.07 m	57	pursuant to Z-8.22-906
Double tube ledger 1.57 m	58	
Double tube ledger 2.07 m	59	
Double tube ledger 2.57 m	60	
Double tube ledger 3.07 m	61	
Aluminium frame platform with plywood 1.57 m; 2.07 m	62	
Aluminium frame platform with plywood 2.57 m; 3.07 m	63	
Aluminium frame platform with access hatch 2.57 m	65	
Aluminium frame platform with access hatch 3.07 m	66	
Modular toeboard 4.14 m	68	
Vertical starter piece	69	
Surface scaffolding upright	70	
Vertical upright 0.50 m with detachable spigot fitting 500	71	
Modular gap cover	72	
Modular aluminium toeboard	73	
Spindle coupler	74	
Horizontal ledger	75	
Bracket ledger	76	
Bracket RE 0.50 m	77	
Suspended scaffolding connector	78	
Modular bracket 0.73 m	79	
Modular double-end guardrail	80	
Scaffold retainer	81	pursuant to Z-8.1-862
Quick-release anchor	82	
Base jack	83	
Steel planking AF 0.32 m	84	
Steel deck	85	
Steel planking AF 0.30 m, 0.34 m	86	
Intermediate deck AF 0.16 m, 0.19 m	87	
Intermediate deck	88	
Aluminium deck with plywood 2.57 m; 3.07 m	89	
Aluminium deck with plywood 1.57 m; 2.07 m	90	
Aluminium hatch-type access deck 3.07 m with ladder	92	
Aluminium hatch-type access deck 2.57 m with ladder	93	

Table 2: (continued)

Designation	Annex B, page	Regulations for manufacturing, marking and proof of compliance / conformity
Integrated ladder	95	pursuant to Z-8.1-862
Aluminium deck with plywood 3.07 m	96	
Aluminium deck with plywood 1.57 m, 2.07 m, 2.57 m	97	
Aluminium hatch-type access deck 3.07 m with ladder	99	
Aluminium hatch-type access deck 2.57 m with ladder	100	
Toeboard, end toeboard	102	
Aluminium toeboard, aluminium end toeboard	103	
Wooden toeboard 4.14 m	104	
Gap cover	105	
Transom	106	
Guardrail coupler AF	107	
Toeboard coupler, halfcoupler with hook	108	
Coupler for square-shaped timber	109	
Toeboard holder	110	
Locking clip	111	
Claw coupler, tilting pin lock coupler	112	
Diagonal cross brace	113	
Advancing guardrail post 2.00 m	114	
Telescopic guardrail 2.0 – 3.07 m	115	
Starter piece	124	pursuant to Z-8.22-64
AR upright with spigot fitting	125	
O-ledger 0.73 – 3.07 m	126	
U-ledger 0.73 m	127	
Diagonal brace	128	
U-plank/deck retainer	129	
AR U-toeboard, wood, design I; AR U-toeboard, wood, design II	130	
U-toeboard, steel	131	
U-bracket	132	
O-lattice girder	133	
Spigot fitting for lattice girder	134	
Safety side meshguard	135	
Horizontal diagonal brace	136	
Post with wedge heads	137	

Table 2: (continued)

Designation	Annex B, page	Regulations for manufacturing, marking and proof of compliance / conformity
U-bracket 0.73 m	138	pursuant to Z-8.22-64
Bracket brace	139	
O-lattice girder	140	
U-passage girder	141	
Handrail/guardrail	142	
Handrail/guardrail fastener	143	
U-protective shelter bracket T7	144	
O-ledger with halfcoupler	145	
O-ledger HD	146	
O-ledger HD	147	
AR TG-60 frame 0.50 x 1.09 m	148	
AR TG-60 frame 0.71 x 1.09 m	149	
AR TG-60 frame 1.00 x 1.09 m	150	
Base jack 60	151	pursuant to Z-8.1-16.2
Locking clip, red	152	
Scaffold retainer	153	
U-lattice girder - ledger 0.73 m	154	
U-aluminium platform stairs T4 2.57 m, 3.07 m	155	
Aluminium assembly guardrail 1.57/2.07m, 2.57/3.07m	156	
Assembly post T5	157	
U-steel deck T4 0.73-3.07m x 0.32 m, spot-welded, with holes for bridging decks	158	
U-steel deck T4 0.73-3.07m x 0.32 m, hand-welded, with holes for bridging decks	159	
U-steel deck 0.73-3.07m x 0.32 m, spot-welded	160	
U-steel deck 0.73-3.07m x 0.32 m, hand-welded	161	
U-robust plank 0.73-2.57m x 0.61 m	162	
U-robust plank 3.07m x 0.61 m	163	
U-robust plank 0.73-2.57m x 0.32 m	164	
U-robust access 2.57-3.07m x 0.61 m with ladder	165	

3.2 Proof of scaffold connectors

3.2.1 System assumptions

The provisions of the following sections shall be applicable for the connector (node) connections including the connections between connecting heads and the members (ledgers and diagonal braces) listed in the Annexes.

The static systems for the calculation shall be modelled according to Annex A, page 2. The listed short members from the upright tube axis to the joints can be considered as stiff. The indexes listed in the following sections refer to a local coordinate system in which the x-axis describes the ledger axis and the z-axis describes the upright tube axis (cf. Annex A, page 2).

In the connection of a ledger, normal forces as well as bending moments and lateral forces may be transferred on the level of the upright tube/ledger and the level at a right angle to it. For the verification calculation of the scaffold system it is important that the bending moment of the connection of ledger and upright tube refers to the outer edge of the upright tube.

Normally only normal forces may be transferred in the connection of a vertical diagonal brace. The vertical component in the vertical diagonal brace connection has to be taken into account with the connection eccentricities as given in Annex A, page 2. The moments resulting from the diagonal force must be absorbed by the standard and ledgers.

Normally only normal forces may be transferred in the connection of a horizontal diagonal brace.

The specifications for stiffness and stresses of the connections are applicable for the connection using the “small” and “big” hole of the connecting or perforated disc.

In all formulas of the following sections, the cutting forces N and V in kN and the bending and torsional moments M in kNcm shall be entered.

3.2.2 Connection of ledger

3.2.2.1 Load/deformation behaviour

3.2.2.1.1 Bending at the upright tube/ledger level (vertical level)

If no jointed connection is assumed, it is necessary for the verification calculation of scaffolding to take into account the ledger connections at the level formed of upright tube and ledger (vertical level) with a torsion spring clamp according to the moment/angle of rotation (M_y/φ)- relation as given in Figure 1 of Annex A, page 1.

3.2.2.1.2 Bending at the level rectangular to the upright tube/ledger level (horizontal level)

For the verification calculation of scaffolding, the ledger connection must be considered, if subject to bending stress at a level rectangular to the upright tube/ledger level (horizontal level), using a torsion spring clamp in accordance with Figure 2 of Annex A, page 1.

3.2.2.1.3 Vertical lateral force rectangular to the ledger axis

For ledger lengths > 0.7 m in connection with vertical lateral forces $V_d \leq 10$ kN, the formulation of an additional clearance in the direction of lateral force can be neglected. Otherwise, an additional clearance in the direction of lateral force of f_0 = 0.175 cm must be taken into account.

3.2.2.2 Proof of load-bearing capacity

3.2.2.2.1 General proofs

It must be proved for the ledger connection that the stresses are not higher than the resistance values as per Table 3.

Table 3: Resistance values in a ledger connection

Connection stress resultant		Resistance
Bending moment $M_{y,R,d}$ [kNcm]		± 101.0
Vertical lateral force $V_{z,R,d}$ [kN]		± 26.4
Bending moment $M_{z,R,d}$ [kNcm]		± 37.2
Horizontal lateral force $V_{y,R,d}$ [kN]	for O-ledger/tube ledger	± 10.0
	for U-ledger	± 5.9
Normal force $N_{R,d}$ [kN]		± 31.0

3.2.2.2.2 Upright tube/ledger connection interaction

In the area of loaded connecting or perforated discs, it must be verified that the respective interaction condition is fulfilled.

- If the connection is made to a vertical upright, AR upright, vertical starter piece or starter piece, the following interaction condition must be complied with:

$$0.316 \cdot I_A + I_S \leq 1.0$$

- If the connection is made to an AR TG-60 frame, the following interaction condition must be complied with:

$$0.280 \cdot I_A + I_S \leq 1.0$$

Where:

I_A Coefficient of utilization in the ledger connection

$$I_A = \frac{M_y}{M_{y,R,d}}$$

with: M_y bending moment in ledger connection

$M_{y,R,d}$ resistance against bending moments in the ledger connection as per Table 3

I_S Vector coefficient of utilization in upright tube in the area of loaded connecting or perforated discs.

- For $v_{act} \leq 1/3$ it holds:

  $I_S = \frac{a}{b}$ (a, b see Fig. 1, where b is to be determined from the interaction relationship according to Fig. 1).

- For $1/3 < v_{act} \leq 0.9$ the vector coefficient of utilization must be determined considering the interaction relationship as shown by the left part of the equation, Column 4 of Table 7, DIN 4420-1:1990-12.

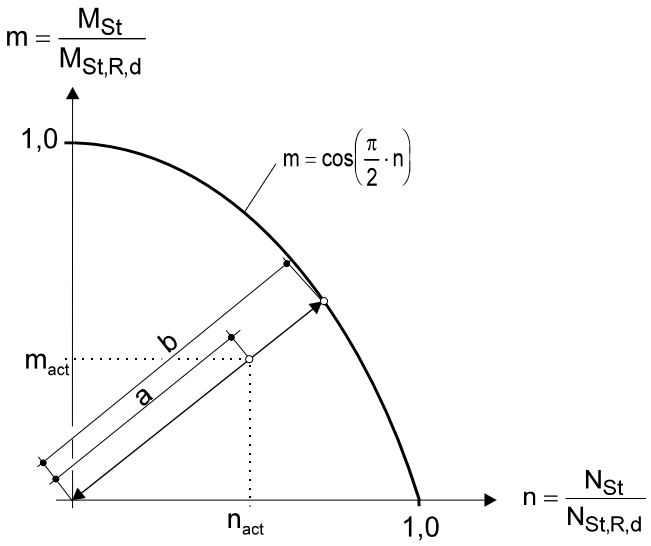
with:

v_{act} the coefficient of utilization to lateral force in upright tube

$$v_{act} = \frac{V_{St}}{V_{St,R,d}}$$

V_{St} lateral force in upright tube

$V_{St,R,d}$ resistance against lateral force in upright tube, $V_{St,R,d} = V_{pl,d} = 48.5$ kN



where:

m_{act} Coefficient of utilization to bending moments and upright tube

M_{St} Bending moment in upright tube

$M_{St,R,d}$ Resistance against bending moments in the upright tube

$M_{St,R,d} = M_{pl,d} = f_{y,d} \cdot \alpha_{pl} \cdot W_{el} = 175$ kNcm

n_{act} Coefficient of utilization to normal force in the upright tube

N_{St} Normal force in upright tube

$N_{St,R,d}$ Stressability to normal force in the upright tube

$N_{St,R,d} = N_{pl,d} = f_{y,d} \cdot A = 132$ kN

Fig. 1: Vector coefficient of utilization in upright tube

3.2.2.2.3 Combined stress resultants

For combined stress resultants in a ledger connection, the following conditions must be fulfilled:

- For the weld seam between the ledger tube (O-ledger) and the connecting head, it is necessary to provide the following additional verification for the "Variante K 2000+" version:

- For the weld seam between the U-ledger profile and the connecting head, it is necessary to provide the following additional verification for the "Variante K 2000+" version:

Where:

M_y, V_y, V_z, M_z	stresses in ledger connection
$N^{(+)}$	tensile normal force in ledger connection
$N_{R,d}, M_{y,R,d}, V_{y,R,d}, V_{z,R,d}, M_{z,R,d}$	resistances according to Table 4
$N_W, M_{y,W}, V_{z,W}, V_{y,W}$	stresses in the weld seam

3.2.3 Connection of vertical diagonal brace

3.2.3.1 Load/deformation behaviour

In the entire system the vertical diagonal braces including their connections have to be calculated as a function of the stress direction (tensile force or thrust) and the diagonal brace length with the equivalent stiffness ($E_d \cdot A_{eff}$) according to Table 5 and a clearance of f_0 = 0.25 cm (see Annex A, page 2).

3.2.3.2 Proof of load-bearing capacity

The following must be verified for the vertical diagonal braces as a function of stress direction:

$$\frac{N_V}{N_{V,R,d}} \leq 1$$

Where:

N_V	tensile force or thrust in vertical diagonal braces
$N_{V,R,d}$	resistance of vertical diagonal braces to tensile force or thrust according to Table 4

Table 4: Characteristics of vertical diagonal braces

Bay length L [m]	Bay height H [m]	Stress by thrust		Stress by tensile force	
		$E_d \cdot A_{eff}$ [kN]	$N^{(-)}_{V,R,d}$ [kN]	$E_d \cdot A_{eff}$ [kN]	$N^{(+)}_{V,R,d}$ [kN]
3.07	2.0	1980	8.3	4630	17.9
2.57		1910	10.2	3600	
2.07		1870	12.4	2930	
1.57		1910	14.8	2300	
1.40		1950	15.5	2170	
1.29		1990	16.2	2030	
1.09		2110	16.8	1850	
1.36		2100	16.5	1800	
0.73		1990	16.1	1670	
3.07	1.5	1690	9.4	4100	17.9
2.57		1720	11.9	3700	
2.07		1600	14.9	3020	
1.57		1510	17.9	2210	
1.09		1630	17.9	1640	
0.73		1710	16.6	1250	
3.07	1.0	1680	10.5	3590	17.9
2.57		1500	13.5	3160	
2.07		1360	17.2	2730	
1.57		1220	17.9	2370	
1.29		1130	17.9	1800	
1.09		1090	17.9	1490	
0.73		1170	17.9	1040	
3.07	0.5	1520	11.2	3300	17.9
2.57		1350	14.6	2790	
2.07		1200	16.0	2320	
1.57		960	16.4	1820	
1.29		810	17.1	1570	
1.09		730	17.6	1380	
0.73		590	17.6	930	

3.2.4 Connection of horizontal diagonal brace

3.2.4.1 Load/deformation behaviour

In the entire system the horizontal diagonal braces including their connections must be calculated as a function of the diagonal brace length and independently of the stress direction (tensile or thrust) with the equivalent stiffness ($E_d \cdot A_{eff}$) according to Table 5 as well as a travel limiting spring in diagonal direction according to the data given in Figure 3 of Annex A, page 1.

3.2.4.2 Proof of load-bearing capacity

The following shall be proved for the horizontal diagonal braces:

$$\frac{N_H}{N_{H,R,d}} \leq 1$$

Where:

N_H tensile force or thrust in the horizontal diagonal brace
$N_{H,R,d}$ resistance of horizontal diagonal brace according to Table 5

Table 5: Characteristics of horizontal diagonal braces

Bay length L [m]	Bay width B [m]	$N_{H,R,d}$ [kN]	$E_d \cdot A_{eff}$ [kN]
0.73	0.73	3.10	2760
1.09	1.09	3.07	2970
1.57	1.57	3.03	2780
2.07	2.07	2.98	2240
2.57	2.57	2.91	1530
3.07	3.07	2.81	830
1.09	0.73	3.08	3160
1.40		3.07	3210
1.57		3.06	3200
2.07		3.03	3070
2.57		3.00	2850
3.07		2.96	2530
1.40	1.09	3.06	3210
1.57		3.05	3190
2.07		3.03	3040
2.57		2.99	2790
3.07		2.95	2460
1.40	1.57	3.04	3140
2.07		3.01	2910
2.57		2.98	2650
3.07		2.93	2330
1.40	2.07	3.02	2970
2.57		2.95	2450
3.07		2.90	2130
1.40	2.57	2.99	2900
3.07		2.86	1880
1.40	3.07	2.94	2380

3.2.5 Connecting or perforated disc

3.2.5.1 Connection in directly neighbouring holes of connecting or perforated disc

If two ledgers or one ledger and one vertical diagonal brace or one ledger and a horizontal diagonal brace are connected in directly neighbouring holes, the following must be proved:

$$\left(n^A + n^a\right)^2 + \left(v^A + v^a\right)^2 \leq 1$$

with:

n, v interaction portions as per Table 6

A ledger A

a ledger or vertical or horizontal diagonal brace between A and B according to Fig. 2

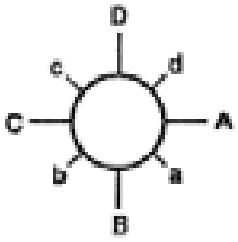


Figure 2: Occupancy of connecting or perforated disc

Table 6: Interaction portions

Interaction portion	Connection: ledger A / ledger a	Connection: ledger A / vertical diagonal brace a	Connection: ledger A / horizontal diagonal brace a
n^A	$\frac{N^{A(+)} + \lvert M_y^A \rvert / e}{N_{R,d}}$	$\frac{N^{A(+)} + \lvert M_y^A \rvert / e}{1{,}16 \cdot N_{R,d}}$	$\frac{N^{A(+)} + \lvert M_y^A \rvert / e}{N_{R,d}}$
n^a	$\frac{N^{a(+)} + \lvert M_y^a \rvert / e}{N_{R,d}}$	$\frac{0{,}707\, N_V^{(+)} \sin\alpha + 1{,}883 \cdot \lvert N_V \rvert \cos\alpha}{1{,}41 \cdot N_{R,d}}$	$\frac{N_H^{(+)}}{N_{R,d}}$
v^A	$\frac{V_z^A}{V_{z,R,d}}$		
v^a	$\frac{V_z^a}{V_{z,R,d}}$	$\frac{\lvert N_V \rvert \cos\alpha}{V_{z,R,d}}$	—

Where:

$N^{A(+)}$; $N^{a(+)}$ Normal force (tensile forces to be calculated only) in ledger connection (ledger A and ledger a respectively)

M_y^A; M_y^a Bending in ledger connection (ledger A and ledger a respectively)

V_z^A;V_z^a V_z^B Vertical lateral force in ledger connection (ledger A, ledger B, vertical diagonal brace a)

N_V	Normal force in vertical diagonal brace
$N_V^{(+)}$	Tensile force in vertical diagonal brace
$N_H^{(+)}$	Tensile force in horizontal diagonal brace
e	Moment arm ledger connection e = 3.3 cm
$N_{R,d}, V_{z,R,d}$	Resistances as per Table 3

The proof shall always be furnished in pairs around the connector (node).

3.2.5.2 Connection of ledgers and/or diagonal braces at any hole of the connecting or perforated discs

$$\frac{\sum V_z}{\sum V_{z,R,d}} \leq 1$$

Where:

$\sum V_z$ the total of all vertical lateral forces acting on the connecting or perforated disc (incl. vertical components of vertical diagonal braces)

$\sum V_{z,R,d}$ the resistance of the connecting or perforated discs against vertical lateral forces $\sum V_{z,R,d} = 105.6\ kN$

3.2.6 Wedge head coupler

The wedge head coupler can only be used for the connection of "free" scaffold tubes Ø 48.3 x 3.2 mm at the upright tubes of the scaffolding system in connection with the roof edge protection wall (see e.g. Annex C, page 7)

3.3 Proof of the complete system

3.3.1 Vertical stress of decks

Proof has been furnished for the decks of the modular system "ALBLITZ MODUL" as per Table 7 for the working loads of the load classes according to DIN EN 12811-1:2004-03, Table 3 and for the use of safety and roof safety scaffolds fall heights of up to 2 m according to DIN 4420-1:2004-03 (Class D according to DIN EN 12810-1:2004-03).

Table 7: Classification of decks to the load classes

Designation	Annex B, page	Bay width ℓ [m]	Use in load class
Aluminium frame platform RE	17 and 18	≤ 3.07	≤ 3
Aluminium frame platform with access hatch RE	20 and 21	≤ 3.07	≤ 3
Steel plank AF RE	23 and 26	4.14	≤ 3
		3.07	≤ 4
		2.57	≤ 5
		≤ 2.07	≤ 6
Steel plank	24	3.07	≤ 4
		2.57	≤ 5
		≤ 2.07	≤ 6

Table 7: (continued)

Designation	Annex B, page	Bay width ℓ [m]	Use in load class
Intermediate deck RE	25	3.07	≤ 4
		2.57	≤ 5
		≤ 2.07	≤ 6
Intermediate deck AF RE 0.19 m	27	4.14	≤ 3
		3.07	≤ 4
		2.57	≤ 5
		≤ 2.07	≤ 6
Intermediate deck AF RE 0.16 m	27	3.07	≤ 4
		2.57	≤ 5
		≤ 2.07	≤ 6
Aluminium frame platform	62 and 63	≤ 3.07	≤ 3
Aluminium frame platform with access hatch	65 and 66	≤ 3.07	≤ 3
Steel plank AF 0.32 m	84	≤ 2.07	≤ 6
		2.57	≤ 5
		3.07	≤ 4
		4.14	≤ 3
Steel deck	85	≤ 3.07	≤ 4
Steel plank AF 0.30 m, 0.34 m	86	≤ 2.07	≤ 6
		2.57	≤ 5
		3.07	≤ 4
		4.14	≤ 3
Intermediate deck AF 0.19 m	87	≤ 2.07	≤ 6
		2.57	≤ 5
		3.07	≤ 4
		4.14	≤ 3
Intermediate deck AF 0.16 m	87	≤ 2.07	≤ 6
		2.57	≤ 5
		3.07	≤ 4
Intermediate deck	88	≤ 2.07	≤ 6
		2.57	≤ 5
		3.07	≤ 4
Aluminium deck with plywood	89 and 90, 96 and 97	≤ 3.07	≤ 3
Aluminium hatch-type access deck with ladder	92 and 93, 99 and 100	≤ 3.07	≤ 3

Table 7: (continued)

Designation	Annex B, page	Bay width ℓ [m]	Use in load class
U-steel deck T4 0.32 m	158 and 159	≤ 2.07	≤ 6
		2.57	≤ 5
		3.07	≤ 4
U-steel deck 0.32 m	160 and 161	≤ 2.07	≤ 6
		2.57	≤ 5
		3.07	≤ 4
U robust plank 0.61 m	162 and 163	≤ 3.07	≤ 3
U robust plank 0.32 m	164	≤ 1.57	≤ 6
		2.07	≤ 5
		2.57	≤ 4
		3.07	≤ 3
U robust plank, access with ladder	165	≤ 3.07	≤ 3

3.3.2 Elastic support of vertical frame series

Provided that the horizontally adjacent connectors are anchored, the non-fixed connectors of frame rows shall be considered elastically supported at the level rectangular to the tensioning direction of the decks (with façade scaffoldings, rectangular to the façade) when connecting the ledgers in the "small hole" of the connecting or perforated disc through the horizontal levels (decking elements). This elastic support can be allowed for in the calculation due to the assumption of a travel limiting spring with the rated values specified in Table 8.

Table 8: Rated values of the horizontal travel limiting springs

Deck	as per Annex B, page	Scaffold width b [m]	Bay width ℓ [m]	f_o [cm]	Stiffness $c_{\perp,d}$ [kN/cm]		Stress of spring load $F_{R\perp,d}$ [kN]
					$0 < F_\perp \leq 1.50$ [kN]	$1.50 < F_\perp \leq F_{R\perp,d}$ [kN]	
Steel plank AF RE 0.32 m	23	0.73	≤ 3.07	3.96	0.58	0.46	2.50
Steel plank RE	24						
Steel plank AF 0.32 m	84						
Steel deck	85			3.40	0.78	0.78	1.71
Aluminium frame platform RE	17, 18						
Aluminium frame platform	62, 63						
Aluminium deck with plywood	89, 90, 96 ,97						

Table 8: (continued)

Deck	as per Annex B, page	Scaffold width b [m]	Bay width ℓ [m]	f_o [cm]	Stiffness $c_{\perp,d}$ [kN/cm]		Stress of the spring load $F_{R\perp,d}$ [kN]
					$0 < F_\perp \leq 1.50$ [kN]	$1.50 < F_\perp \leq F_{R\perp,d}$ [kN]	
U-steel plank T4	158, 159	0.73	≤ 3.07	4.41	0.54	0.54	2.33
U-steel plank	160, 161						
U robust plank 0.61 m	162, 163			4.90	0.58	0.48	2.50
Steel plank AF RE 0.32 m	23	1.09	≤ 3.07	4.39	0.79	0.79	2.46
Steel plank RE	24						
Steel plank AF 0.32 m	84						
Steel deck	85						

3.3.3 Elastic coupling of the vertical levels

The inner and outer vertical levels of a scaffold can be considered elastically coupled to each other in the direction of these levels (with façade scaffoldings parallel to the façade) when connecting the ledgers in the "small hole" of the connecting or perforated disc through the decks. Due to the assumption of coupling springs with the parameters specified in Table 9, this elastic coupling can be allowed for in the calculation, regardless of the bay width.

Table 9: Rated values of the horizontal coupling springs

Deck	as per Annex B, page	Scaffold width b [m]	Bay width ℓ [m]	f_o [cm]	Stiffness $c_{\|\|,d}$ [kN/cm]		Strength of spring load $F_{R\|\|,d}$ [kN]
					$0 < F_{\|\|} \leq 3.0$ [kN]	$3.0 < F_{\|\|} \leq F_{R\|\|,d}$ [kN]	
Steel plank AF RE 0.32 m	23	0.73	≤ 3.07	1.40	2.58	2.58	4.50
Steel plank RE	24						
Steel plank AF 0.32 m	84						
Steel deck	85						
Aluminium frame platform RE	17,18		≤ 3.07	0.50	1.86	1.12	3.86
Aluminium frame platform	62,63						
Aluminium deck with plywood	89,90, 96,97						
U-steel plank T4	158, 159			1.00	2.59	2.53	5.00
U-steel plank	160, 161						
U-robust plank 0.61 m	162, 163			0.71	1.56	1.26	5.00
Steel plank AF RE 0.32 m	23	1.09	≤ 3.07	1.95	1.67	1.67	3.94
Steel plank RE	24						
Steel plank AF 0.32 m	84						
Steel deck	85						
Steel plank AF RE 0.32 m	23	1.09	≤ 2.57	1.95	1.39	1.39	3.28
Steel plank RE	24						
Steel plank AF 0.32 m	84						
Steel deck	85						

3.3.4 Material characteristics

For components made from steel S235JRH with an extended yield point of ($R_{eH} \geq 320$ N/mm²) – these components are marked correspondingly in the drawings in Annex B – it is permissible to take a rated value of $f_{y,d}$ = 291 N/mm² of the yield point as a calculation basis.

3.3.5 Welding seams

For the proof of the welding seams of components made from steel S235JRH with an extended yield point of ($R_{eH} \geq 320$ N/mm²) - these components are marked correspondingly in the drawings in Annex B – the utilization of the extended yield points of $f_{y,d}$ = 291 N/mm² is permissible for butt welds (welding seams) that are subject to pressure/bending pressure. For all other welding seams proof shall be furnished taking into account the yield point of the base materials of the components.

3.3.6 Cross-section values of the scaffold spindles

The equivalent cross-section values for the stress analyses and calculation of distortion according to DIN 4425:1990-11 (Annex B of DIN EN 12811-1:2004-03) shall be assumed as follows:

for scaffold base jacks according to Annex B, page 83:

A = AS	=	3.52 cm²
I	=	4.00 cm⁴
W_{el}	=	2.68 cm³
W_{pl}	=	1.25 · 2.68 = 3.35 cm³

for scaffold base jacks according to Annex B, page 151:

A = AS	=	3.84 cm²
I	=	3.74 cm⁴
W_{el}	=	2.61 cm³
W_{pl}	=	1.25 · 2.61 = 3.26 cm³

3.3.7 Couplers

For the proof of the half couplers attached to the various components, the load-bearing capacities and stiffnesses for class B half couplers shall be applied according to the specifications in the "Zulassungsgrundsätze für den Verwendbarkeitsnachweis von Halbkupplungen an Stahl- and Aluminiumrohren"[3] (Approval principles for the proof of applicability of half couplers on steel and aluminium tubes).

4 Design Provisions

4.1 General

The execution and inspection of the scaffolds is not the subject matter of this National Technical Approval.

4.2 Condition of components

Before installation, all components shall be inspected for their proper condition; damaged components must not be used.

4.3 Design and structure

4.3.1 Components

Scaffolds governed by this approval shall be erected using only the scaffold components listed in Table 2. Only components shall be used which are marked according to the regulations of national technical approvals stated in Table 2.

3 to be obtained from *Deutsches Institut für Bautechnik*

In individual cases, steel tubes and couplers according to DIN EN 12811-1:2004-03 as well as scaffold decks and planks according to DIN 4420-1:2004-03 may also be used.

In derogation of the scaffolding base jack specified in Annex B, pages 83 and 151, also other light scaffolding spindles complying with DIN 4425:1990-11 or base jacks in accordance with Annex B of DIN EN 12811-1:2004-03 can be used in conformity with the required load-bearing capacities.

In terms of the scaffold connector use, the following shall apply:

A maximum of eight members may be connected to each connecting or perforated disc.

To fix the captive wedges of the connecting heads, they must be hammered tight with a 500 g-hammer in top-to-bottom direction until the blow bounces off.

4.3.2 Base area

On top of the scaffolding base jacks, the lower assembly frames or vertical starter pieces are to be mounted and adjusted so that the scaffold layers are positioned horizontally. Measures have to be taken to the effect that the plates of the scaffolding spindles rest horizontally and solidly on the ground to absorb and transmit the forces generated by the scaffolding.

4.3.3 Decks and planks

The decks and planks are to be secured from accidental lift-off.

4.3.4 Side protection

The DIN EN 12811-1:2004-03 provisions are applicable for side protection. The components designed for side protection shall be given priority over components such as steel tubes and couplers according to DIN EN 12811-1:2004-03 as well as wooden decks and planks according to DIN 4420-1:2004-03, which shall only be used in exceptional cases.

4.3.5 Bracing

Scaffolds must be braced.

Vertical levels must be braced using longitudinal ledgers or longitudinal ledgers in combination with vertical diagonal braces. System decks in combination with transoms can be considered as longitudinal ledgers for the proof of stability.

The stiffness of the horizontal levels must be ensured by ledgers and horizontal diagonals or by system decks in combination with transoms.

Design and positioning of the individual bracing levels follow from the particulars of proof of stability.

4.3.6 Anchoring

The anchoring pattern and the anchoring forces shall be based on the specifications in the proof of stability.

The anchoring of the scaffold retainer to the façade or to any other part of the building is not the subject-matter of this approval. The user shall ensure that they are capable of absorbing and transmitting the forces emanating from the scaffold retainer safely. Vertical forces must not be transferred in this process.

4.3.7 Couplers

Threaded joint couplers must be fixed to the uprights with a tightening torque of 50 Nm; deviations of $\pm$ 10 % are admissible. The screws must be maintained so that they can be easily moved, e.g. by applying an oil-grease-mixture.

5 Provisions for use and maintenance

5.1 General

The use of the scaffolds is not the subject-matter of this National Technical Approval.

5.2 Wooden scaffold components

In order to avoid damages to the wooden scaffold components due to dampness, they are to be stored in a dry and adequately aerated place with no ground contact.

Georg Feistel
Head of Department

Authorized

>*signed*<

>Seal: Deutsches Institut für Bautechnik<

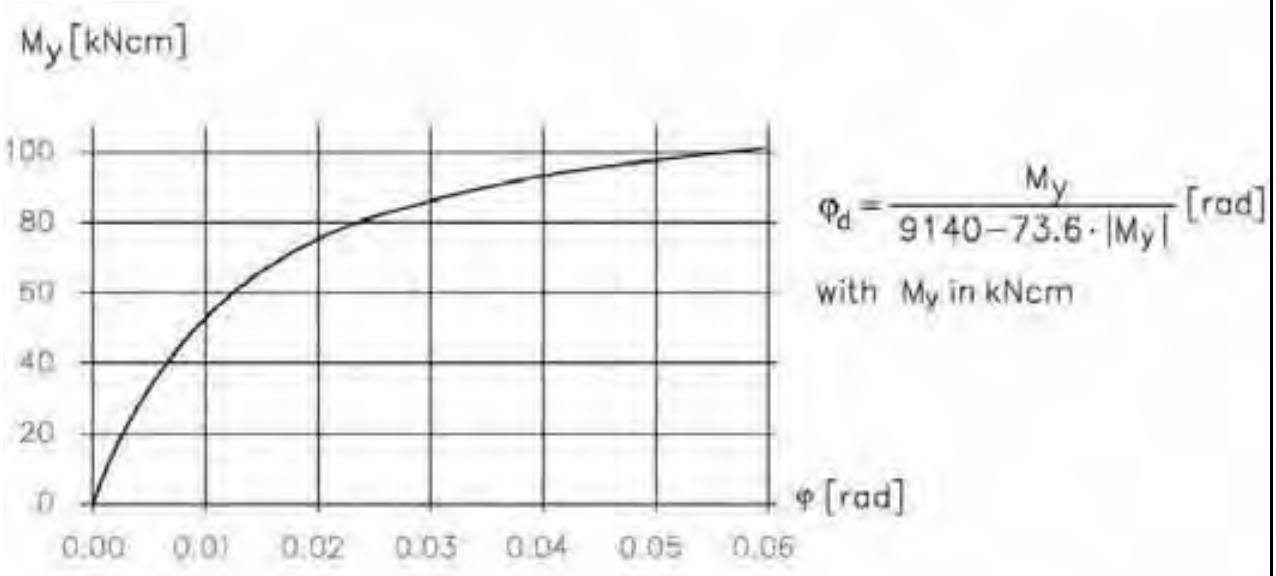


Figure 1: Torsion spring rigidity in the ledger connection at the upright tube / ledger level.

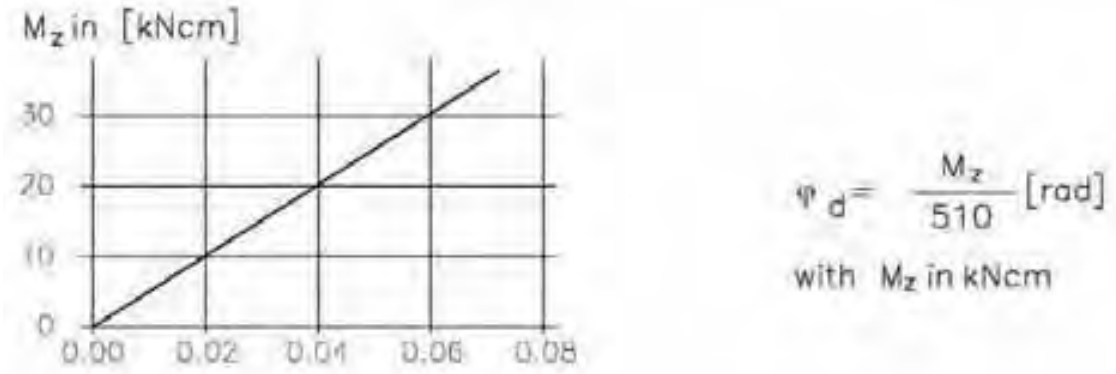


Figure 2: Torsion spring rigidity in the ledger connection at the level rectangular to the upright tube / ledger level.

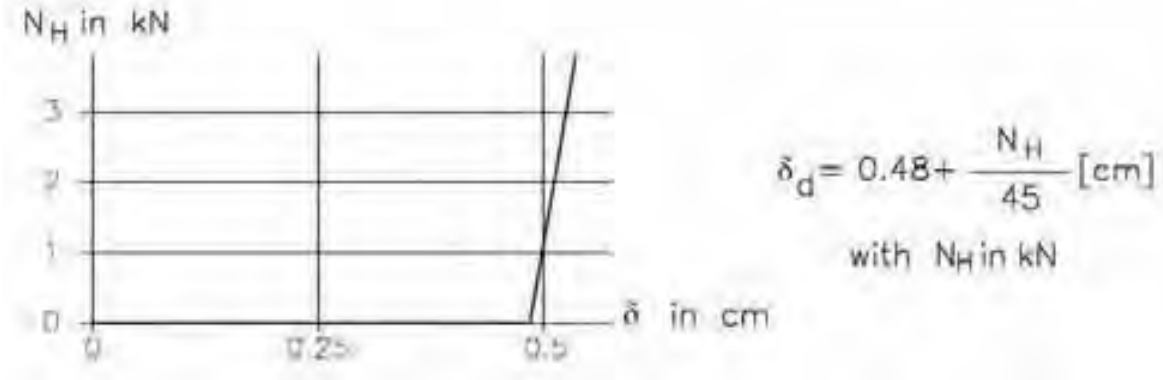
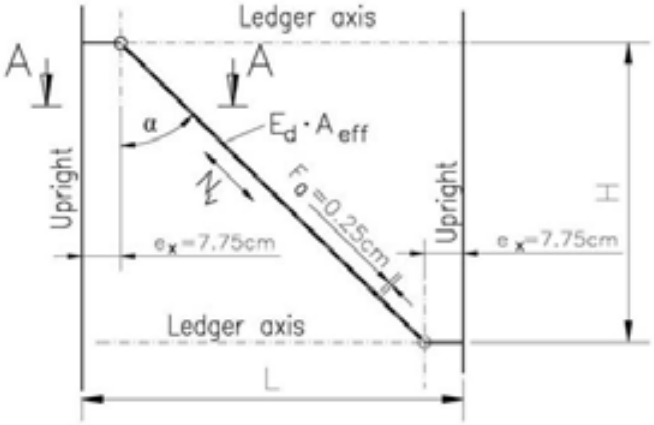
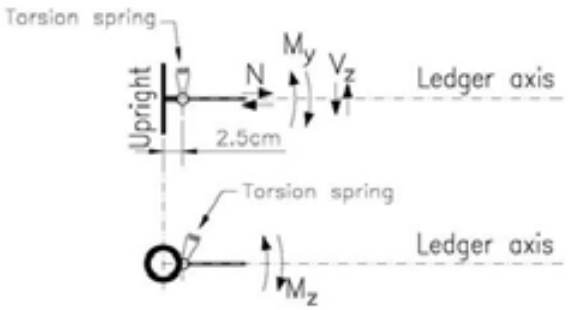


Figure 3: Travel limiting spring rigidity in the horizontal diagonal brace connection.

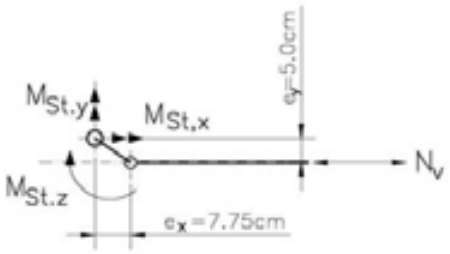
Static system
Vertical diagonal brace



Static system
Ledger connection



Section A-A



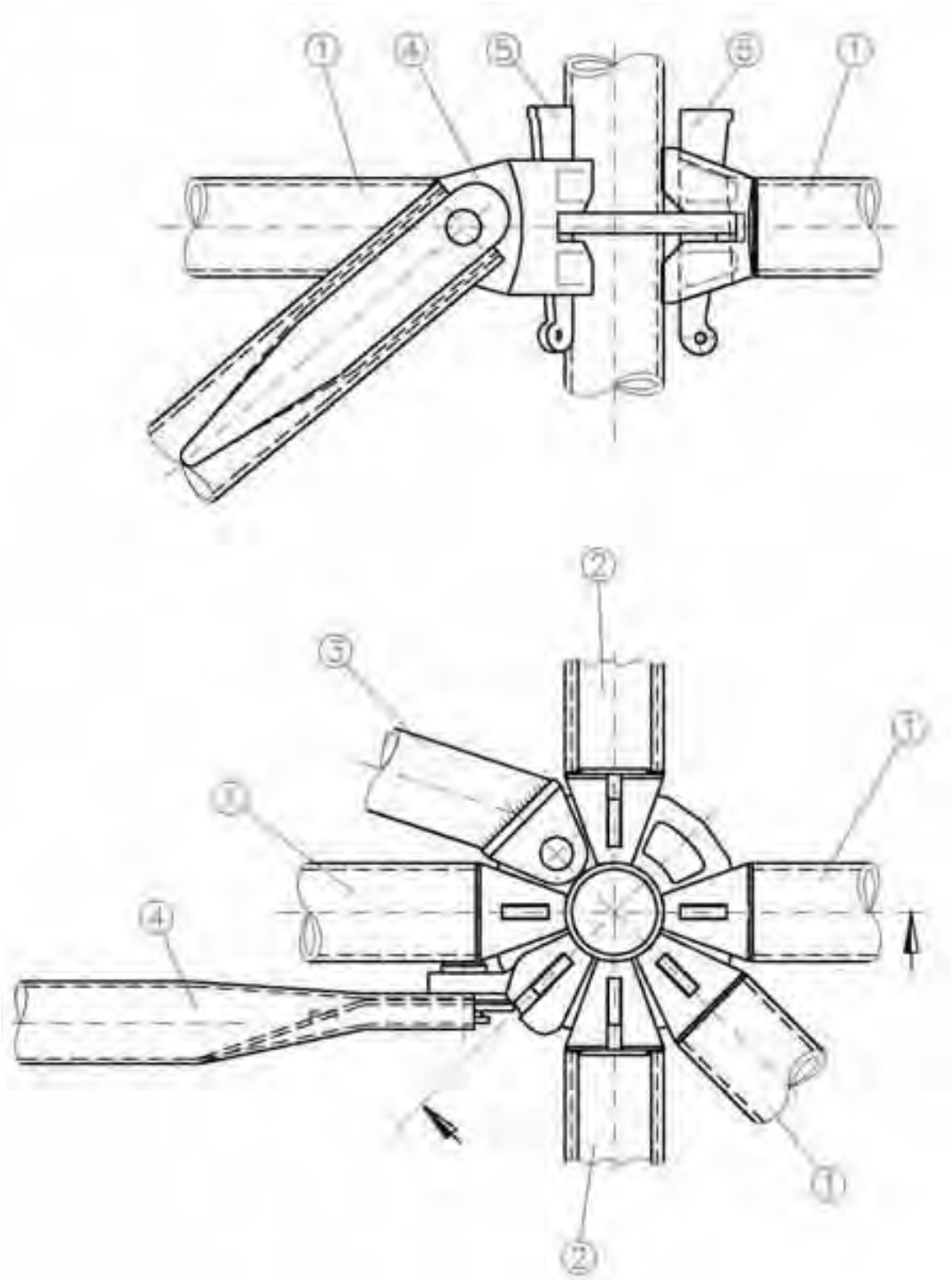
Connector torques due to diagonal force N_v

$M_{St.x} = N_v \cdot \cos\alpha \cdot 5.0\text{cm}$

$M_{St.y} = N_v \cdot \cos\alpha \cdot 7.75\text{cm}$

$M_{St.z} = N_v \cdot \sin\alpha \cdot 5.0\text{cm}$

The connector torques must be absorbed by both the vertical upright and the ledgers.



(1) Tube ledger
(2) U-ledger
(3) Horizontal diagonal brace
(4) Vertical diagonal brace
(5) Wedge 6mm

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Scaffold connector

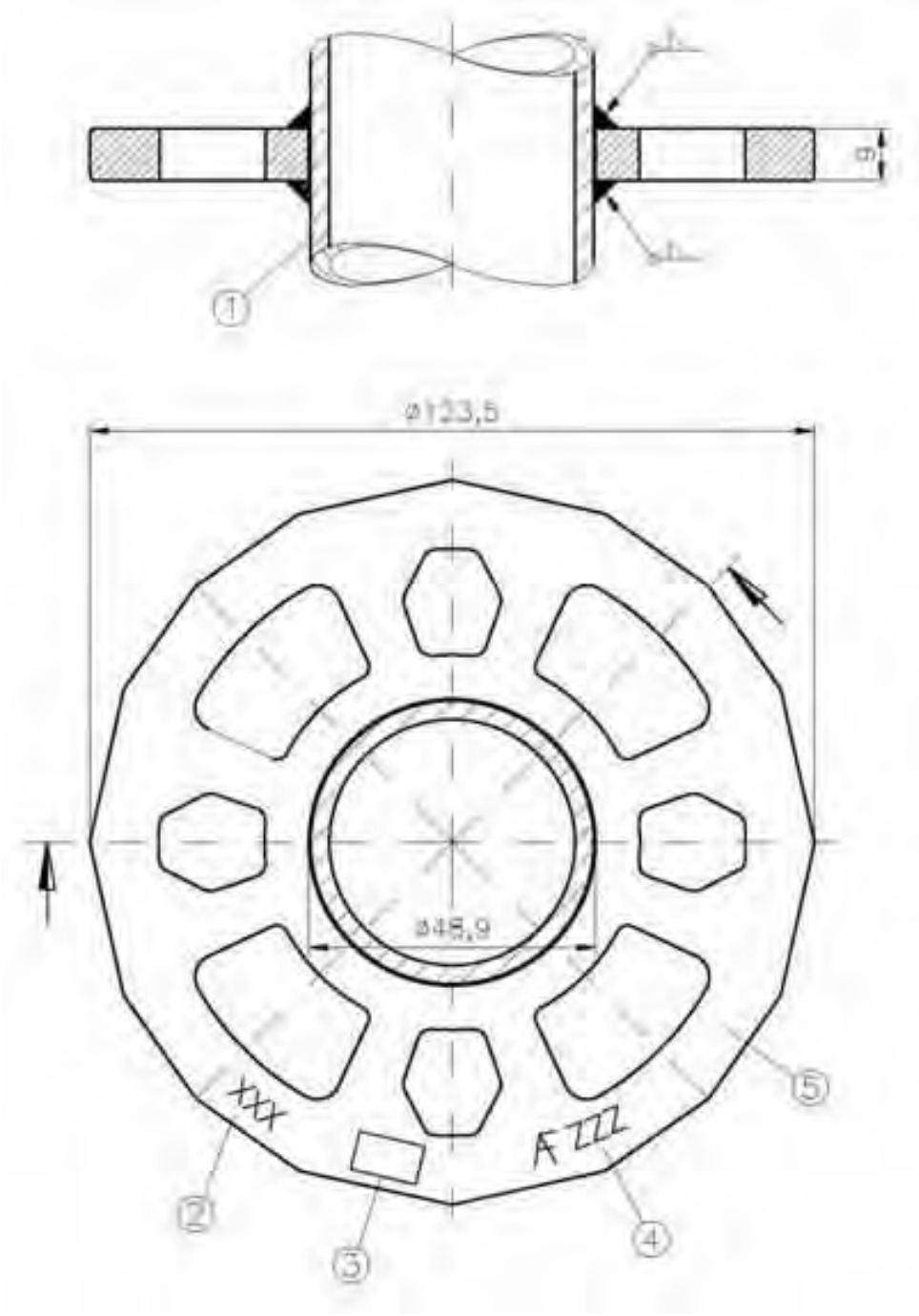
Overview

ALFIX MODUL plus II

according to Z-8.22-906

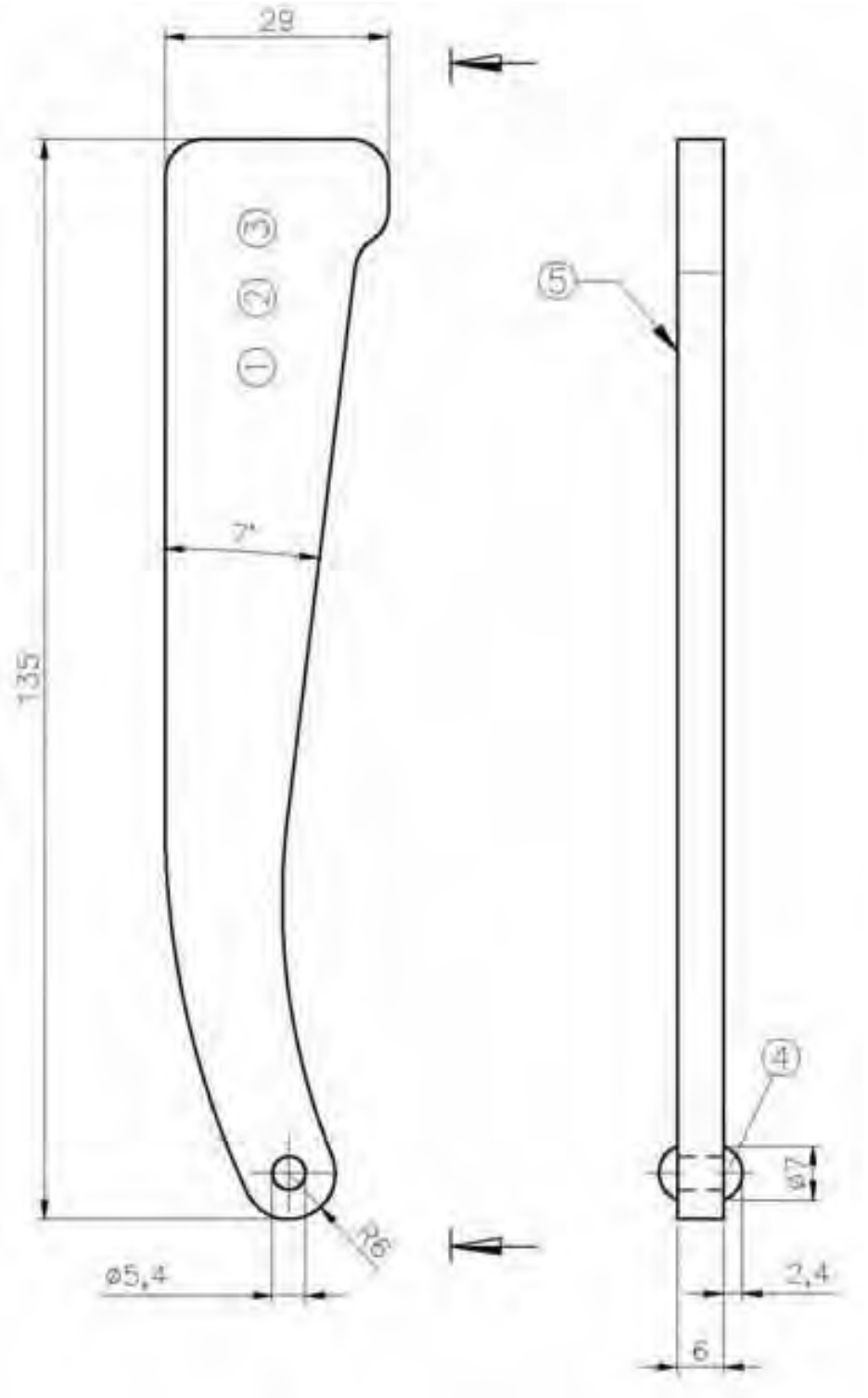
Annex B, page 1 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

M710-B101_ABM



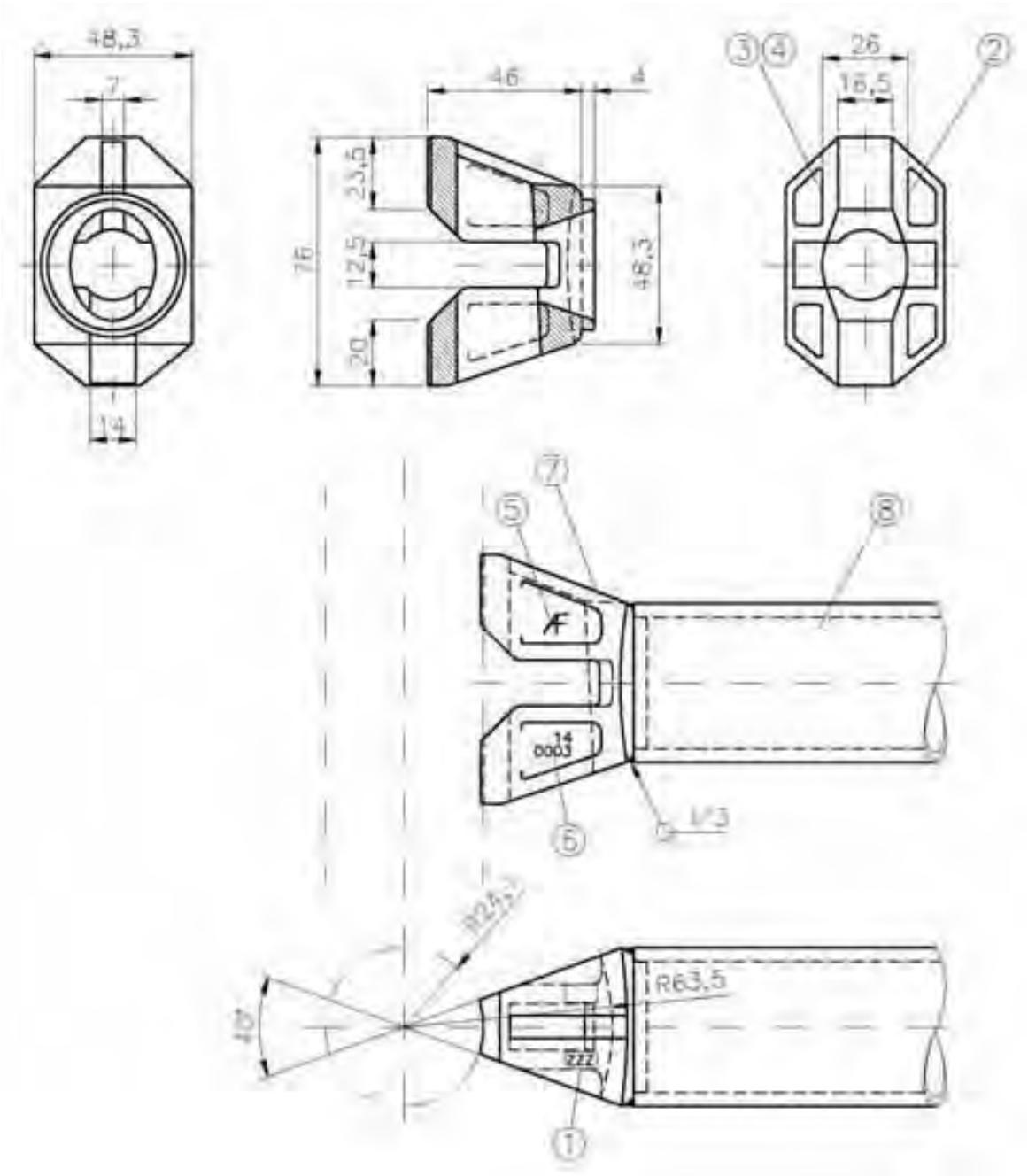
(1)	R48.3x3.2	S235JRH	ReH≥320N/mm^2
(2)	Batch number / week, year		embossed 0,4
(3)	Foundry logo		embossed 0,4
(4)	Æ short approval number		embossed 0,4
(5)	G20Mn5	DIN EN 10293	ReH≥360N/mm^2, Rm≥500N/mm^2
	alternatively: S355J2	DIN EN 10025-2	

Material thickness = 9mm

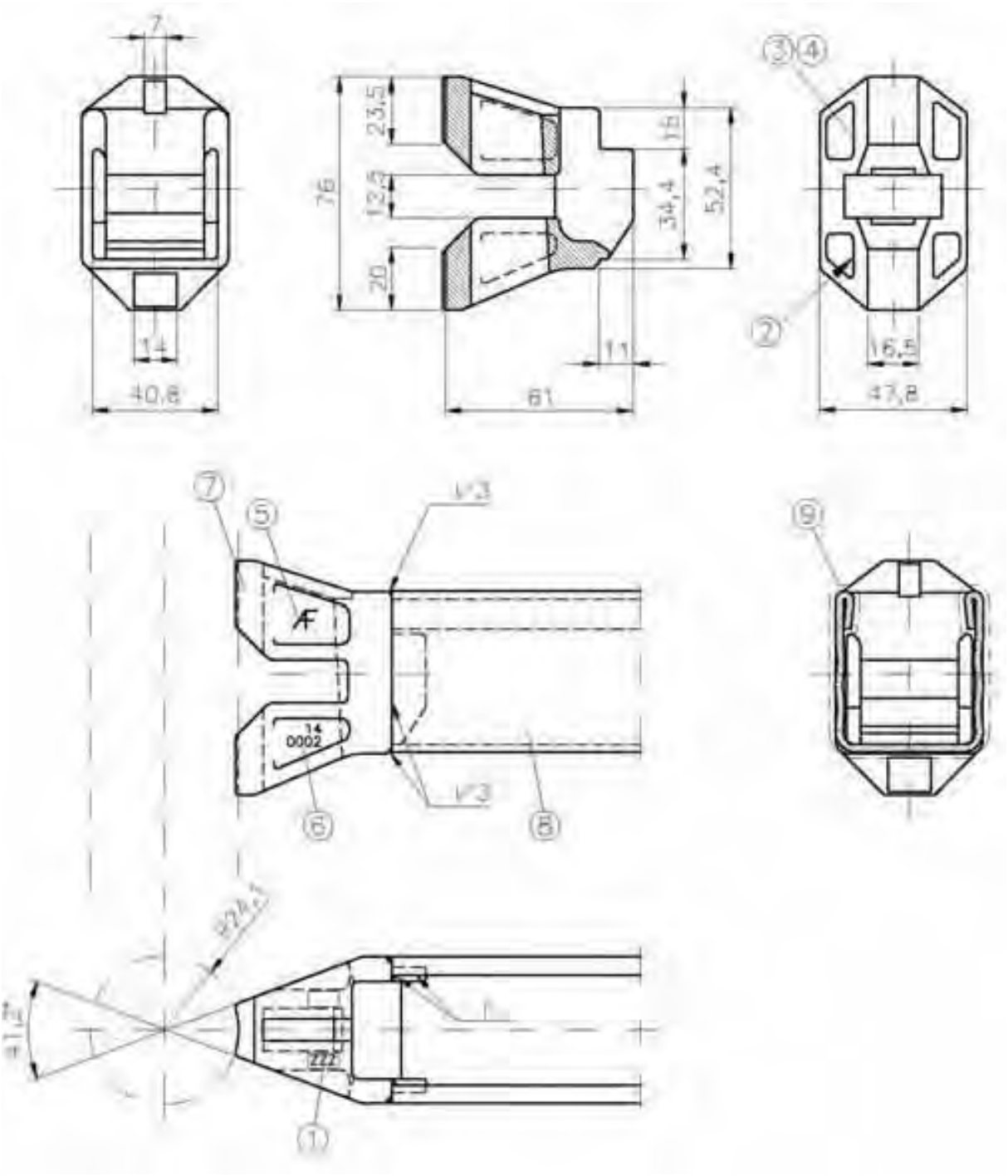


(1) ZZZ = Short approval number
(2) AF = Manufacturer's mark ALFIX
(3) YY = Year of manufacture (e.g. 08 = 2008)
(4) Button-head rivet Ø 5x10 with rivet head of rivet Ø 4 DIN 660 QSt 32-2, zinc-plated
(5) Marking

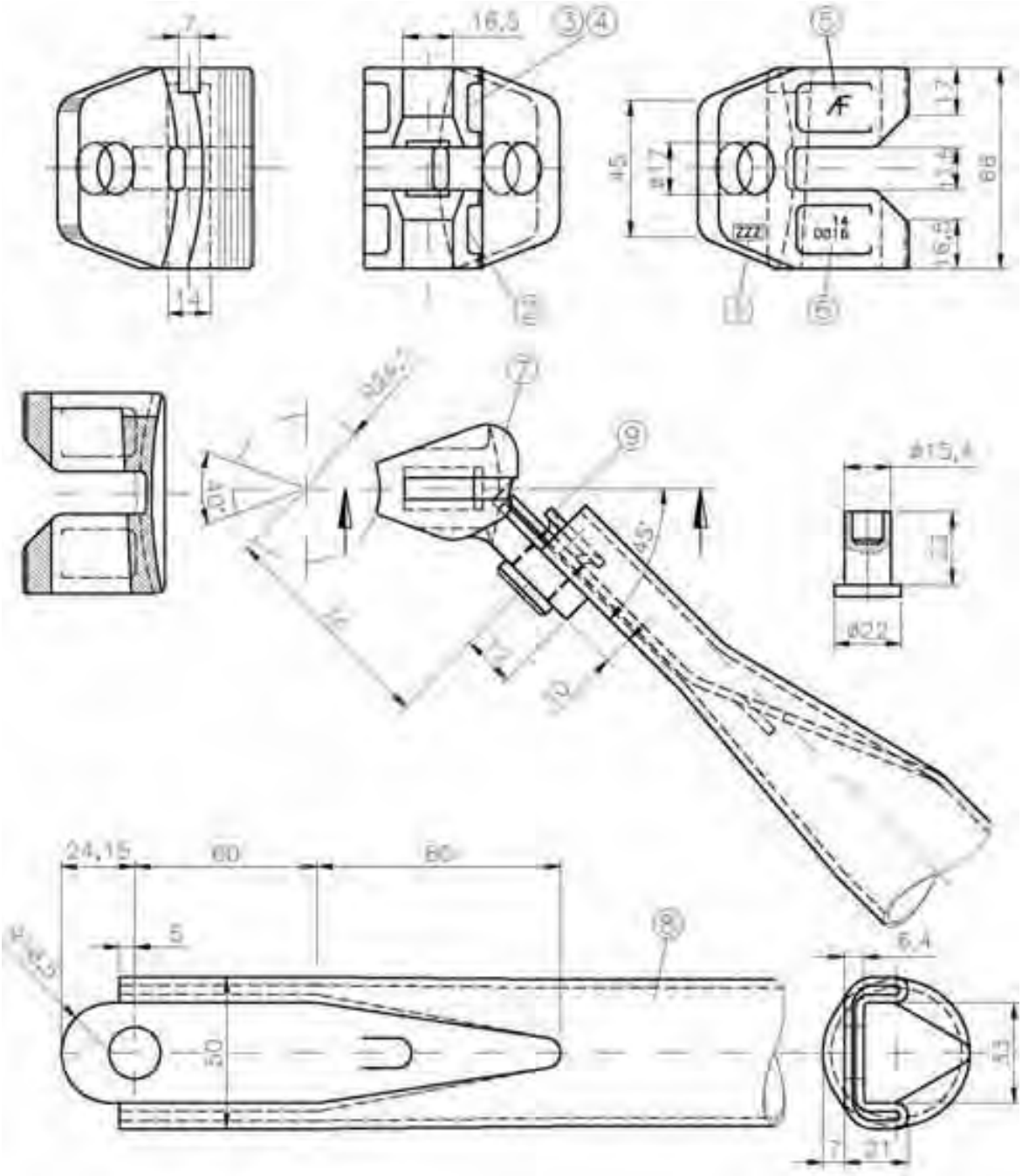
galvanized; S550MC



(1) ZZZ = Short approval number
(2) ☐ = Foundry marking
(3) XX = Calendar week and
(4) YY = Year of manufacture (e.g. 4005 = CW 40/2005)
(5) AF = Manufacturer's mark ALFIX
(6) 14 0003 = Drawing number
(7) G20Mn5 DIN EN 10293
(8) R 48.3x3.2 S235JRH ReH≥320N/mm²



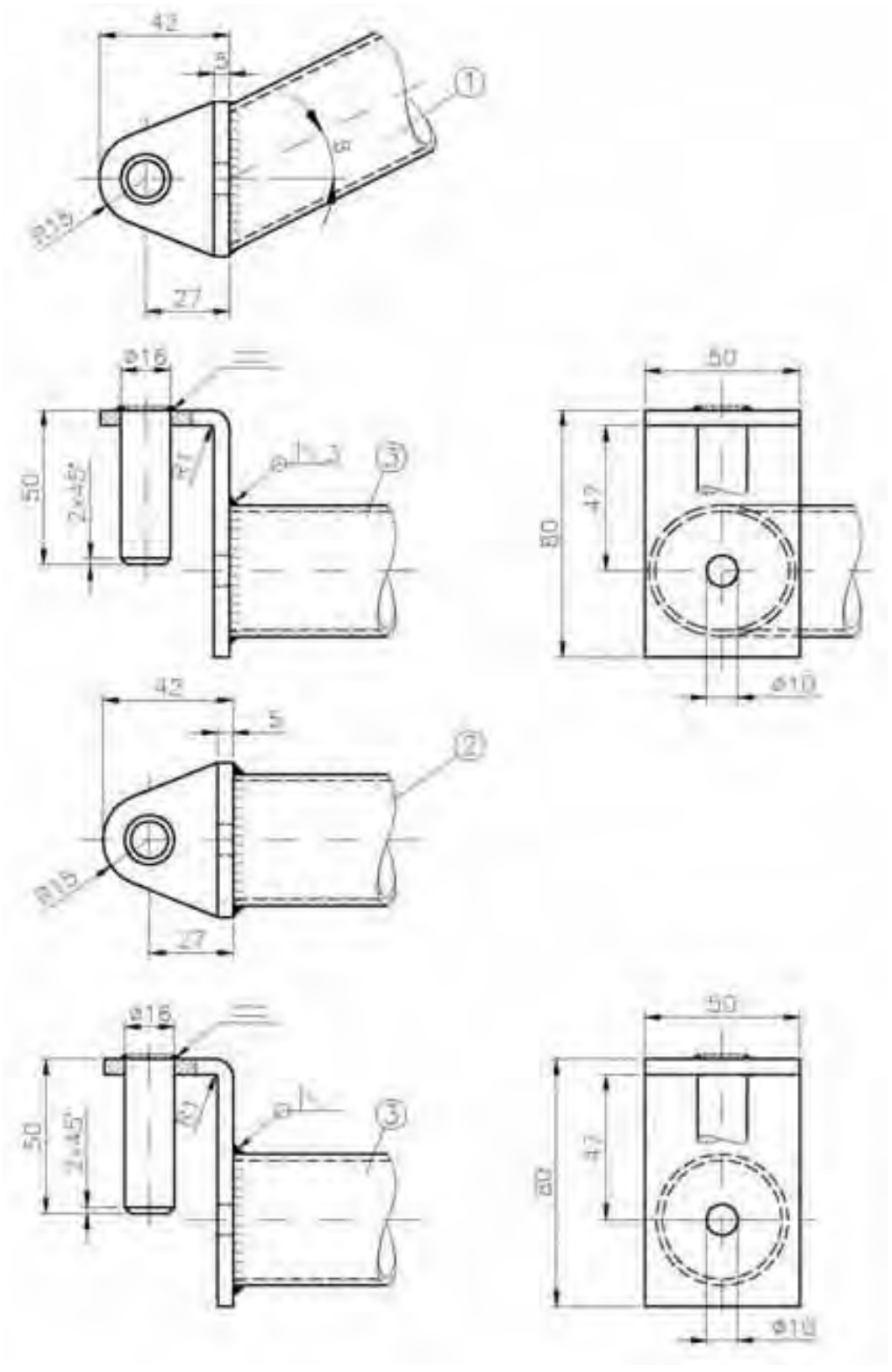
(1) ZZZ = Short approval number
(2) ☐ = Foundry marking
(3) XX = Calendar week and
(4) YY = Year of manufacture (e.g. 4005 = CW 40/2005)
(5) ÆF = Manufacturer's mark ALFIX
(6) $^{14}_{0002}$ = Drawing number
(7) G20Mn5 DIN EN 10293
(8) U-profile 48x52x2.5 S235JRH
(9) Welded area



(1) ZZZ = Short approval number
(2) ☐ = Foundry marking
(3) XX = Calendar week and
(4) YY = Year of manufacture (e.g. 4005 = CW 40/2005)
(5) AF = Manufacturer's mark ALFIX
(6) 0016^{14} = Drawing number

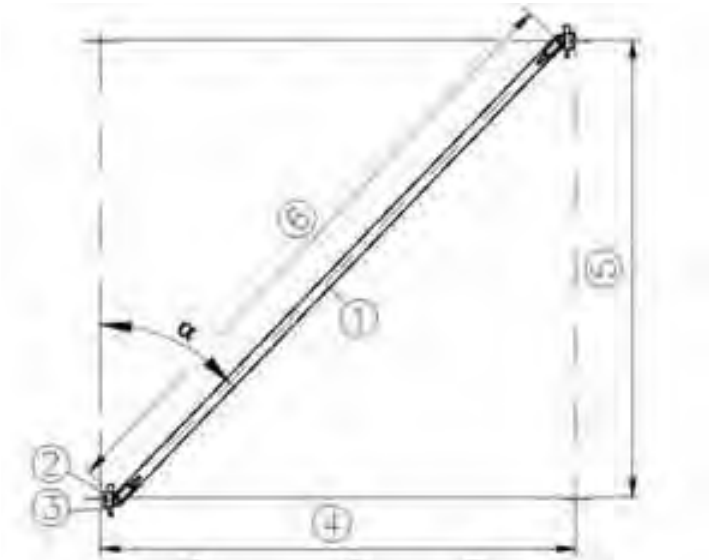
(7)	G20Mn5	DIN EN 10293	
(8)	R 48.3x2.7	S235JRH	ReH≥320N/mm²
(9)	Rivet modular diagonal braces	QSt 36-3	blank drawn, zinc-plated

Diagonal brace head – right hand
Diagonal brace head – left hand, inversely



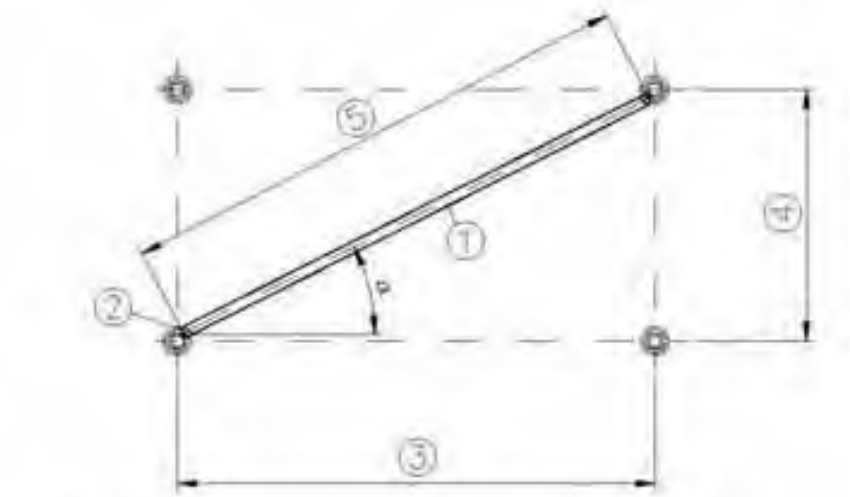
(1) Form “A” S235JR
(2) Form “B“ S235JR
(3) R 42.4x2 S235JRH

ALFIX GmbH 63828 Edelbach 09603 Großschirma	**ALBLITZ MODUL** **H-diagonal brace connection** ALFIX MODUL plus II according to Z-8.22-906	Annex B, page 7 to the national technical approval Z-8.22-913 of 7. May 2012 Deutsches Institut für Bautechnik M710-B107_ABM



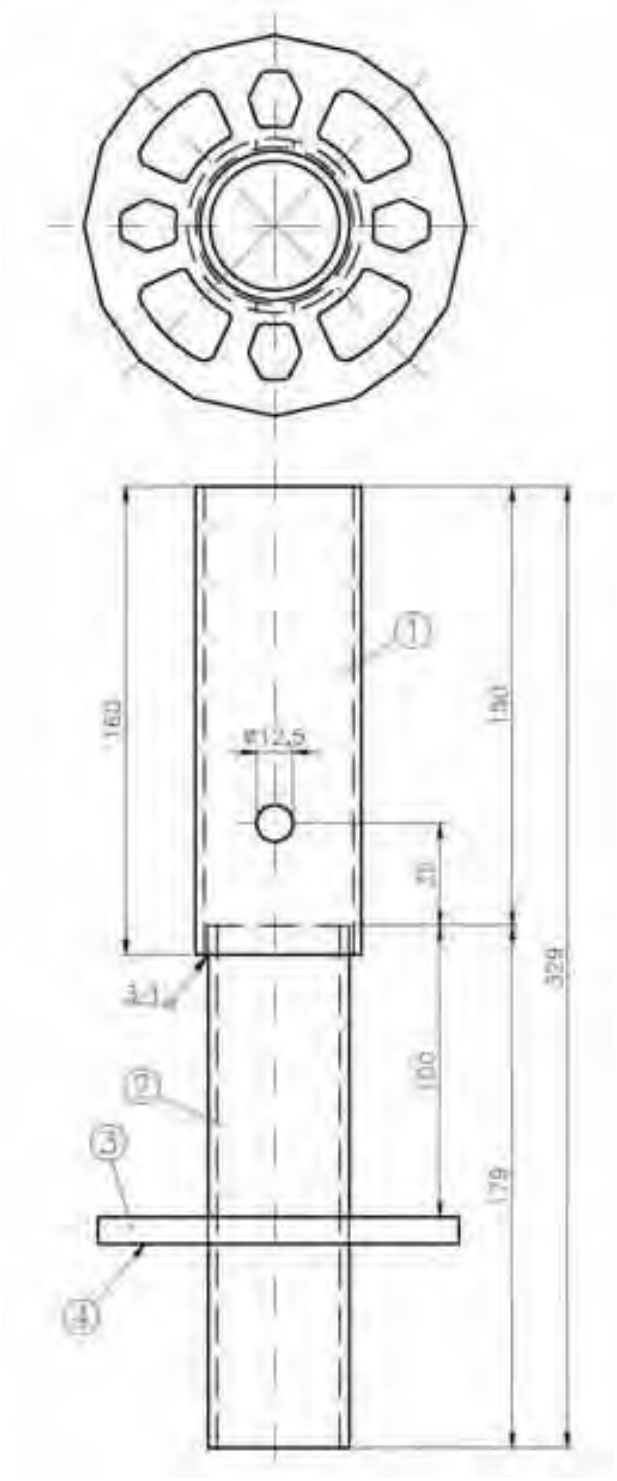
④	⑤	⑥	α
732	500	769	49,5
1088	500	1065	62,0
1286	500	1243	66,3
1400	500	1348	68,2
1572	500	1509	70,7
2072	500	1988	75,5
2572	500	2475	78,4
3072	500	2966	80,3
732	1000	1158	30,3
1088	1000	1372	43,3
1286	1000	1515	48,7
1400	1000	1602	51,4
1572	1000	1740	55,0
2072	1000	2168	62,6
2572	1000	2622	67,8
3072	1000	3090	71,2
732	1500	1610	21,3
1088	1500	1770	32,1
1286	1500	1883	37,2
1400	1500	1954	39,8
1572	1500	2068	43,5
2072	1500	2440	52,1
2572	1500	2851	58,3
3072	1500	3286	62,9
732	2000	2084	16,3
1088	2000	2210	25,2
1286	2000	2301	29,7
1400	2000	2360	32,1
1572	2000	2455	35,5
2072	2000	2775	43,9
2572	2000	3143	50,6
3072	2000	3543	55,7

(1) R 48.3x2.7 S235JRH ReH≥320N/mm²
(2) V-diagonal brace connection
(3) Wedge 6 mm S550MC
(4) Bay length L
(5) Bay height H
(6) Rivet spacing l



⑥	③	④	⑤	α
B	732	732	953	45
A	1088	732	1231	33,9
A	1400	732	1502	27,6
A	1572	732	1657	25
A	2072	732	2124	19,5
A	2572	732	2603	15,9
A	3072	732	3088	13,4
B	1088	1088	1457	45
A	1400	1088	1692	37,8
A	1572	1088	1831	34,7
A	2072	1088	2262	27,7
A	2572	1088	2717	22,9
A	3072	1088	3165	19,5
B	1572	1572	2141	45
A	1400	1572	2023	48,3
A	2072	1572	2519	37,2
A	2572	1572	2935	31,4
A	3072	1572	3373	27,1
B	2072	2072	2848	45
A	1400	2072	2420	55,9
A	2572	2072	3221	38,8
A	3072	2072	3625	34
B	2572	2572	3555	45
A	1400	2572	2850	61,4
A	3072	2572	3925	39,9
B	3072	3072	4262	45
A	1400	3072	3299	65,5

(1) R 42.4x2 S235JRH
(2) H-diagonal brace connection
(3) Bay length L
(4) Bay width B
(5) Bolt spacing l
(6) Form



(1)	R 57x2.9	S235H	
(2)	R 48.3x3.2	S235JRH	ReH≥320N/mm²
(3)	Connecting disc		
(4)	Marking		

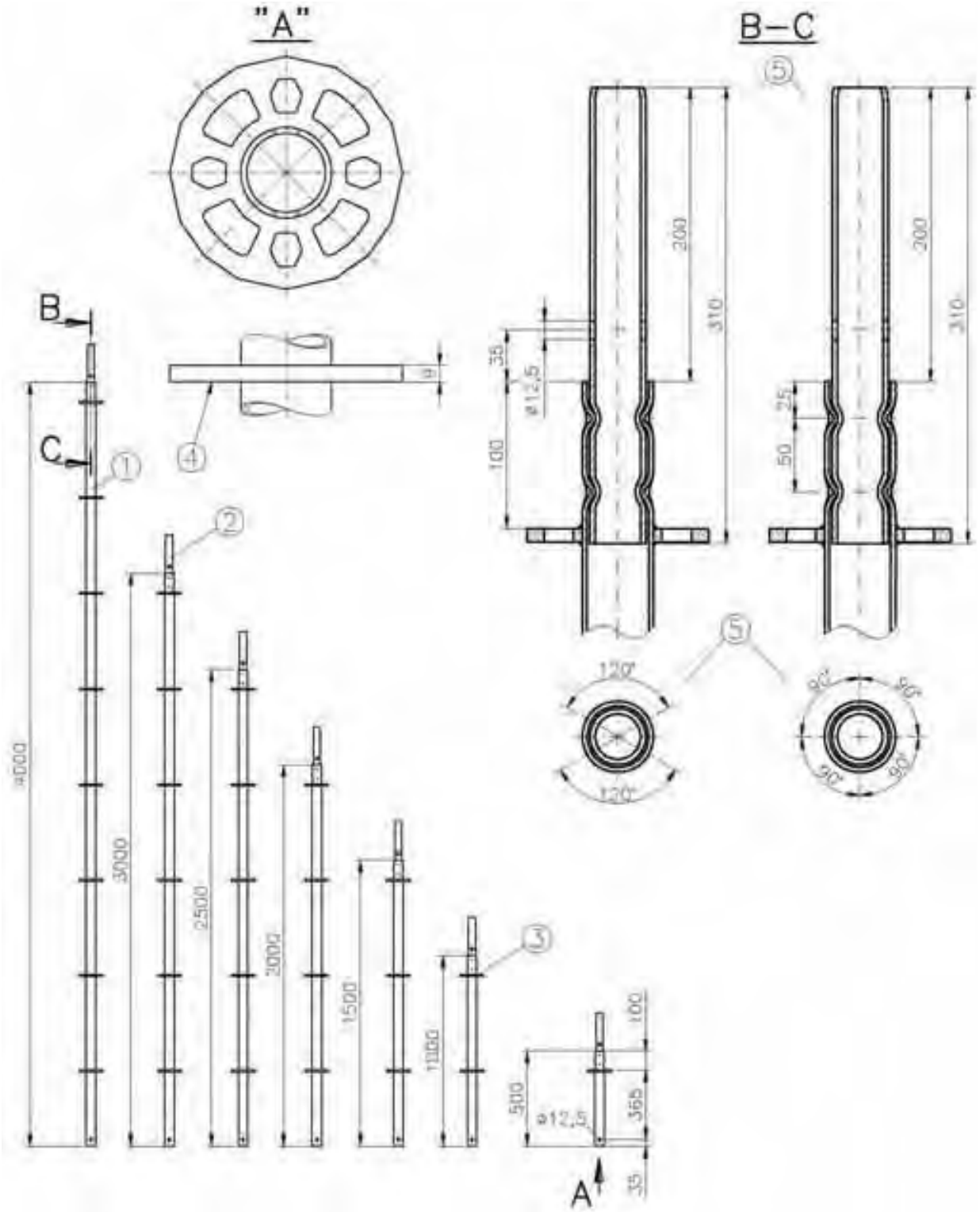
galvanized

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Vertical starter piece

according to Z-8.22-906



(1)	R 48.3x3.2	S235JRH	ReH≥320N/mm²
(2)	R 38x3.6	S235JRH	ReH≥320N/mm²
(3)	Connecting disc		
(4)	Marking		
(5)	Linear pressing	alternatively: 4x point pressing	

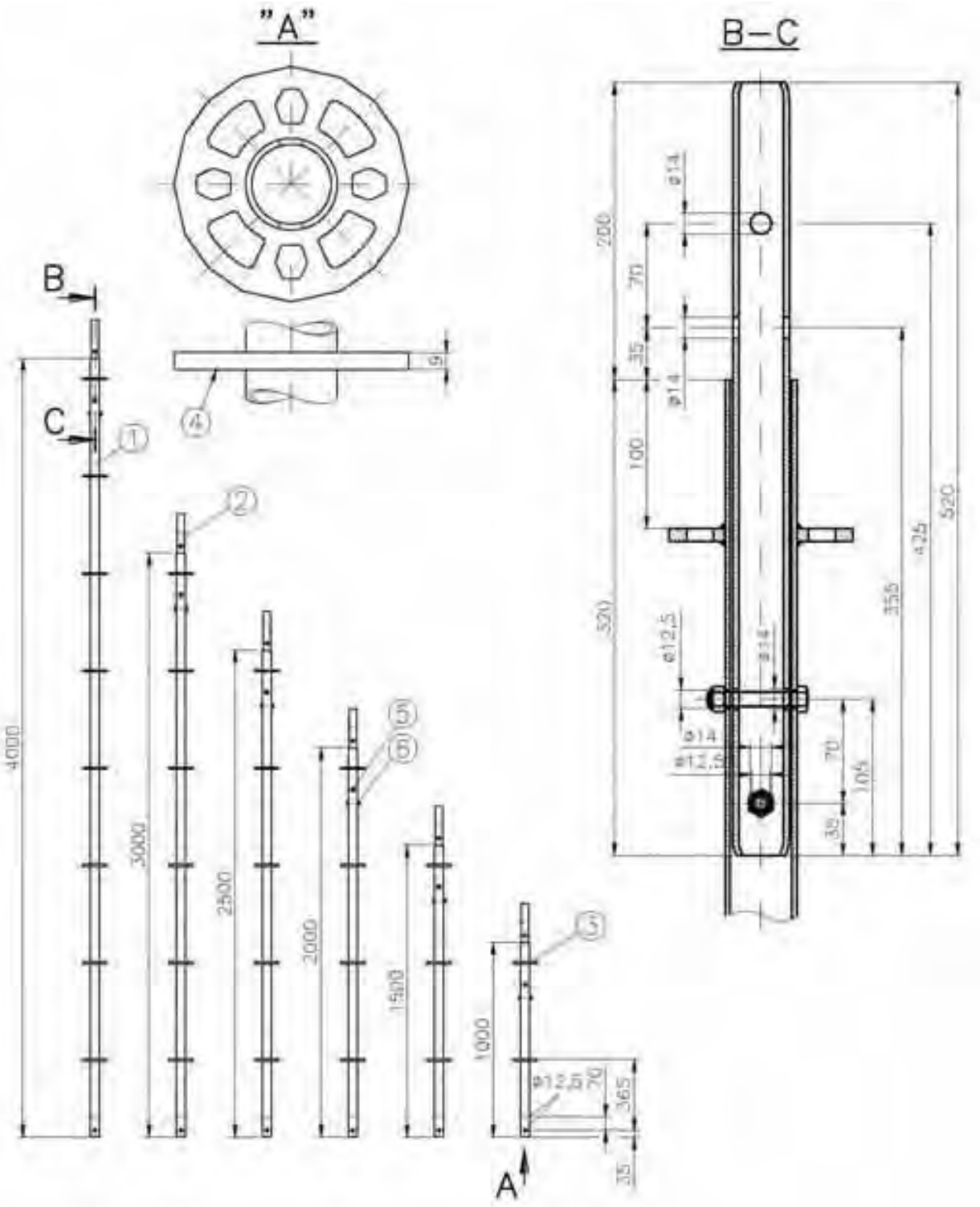
galvanized

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Vertical upright with spigot fitting 200

according to Z-8.22-906



(1)	R 48.3x3.2	S235JRH	ReH≥320/mm²
(2)	R 38x4	S235JRH	ReH≥320N/mm²
(3)	Connecting disc		
(4)	Marking		
(5)	Hexagon screw	DIN 931 – M10x60-8.8-galvanized	
(6)	Hex nut, self-locking	DIN 985 - M10-8-galvanized	

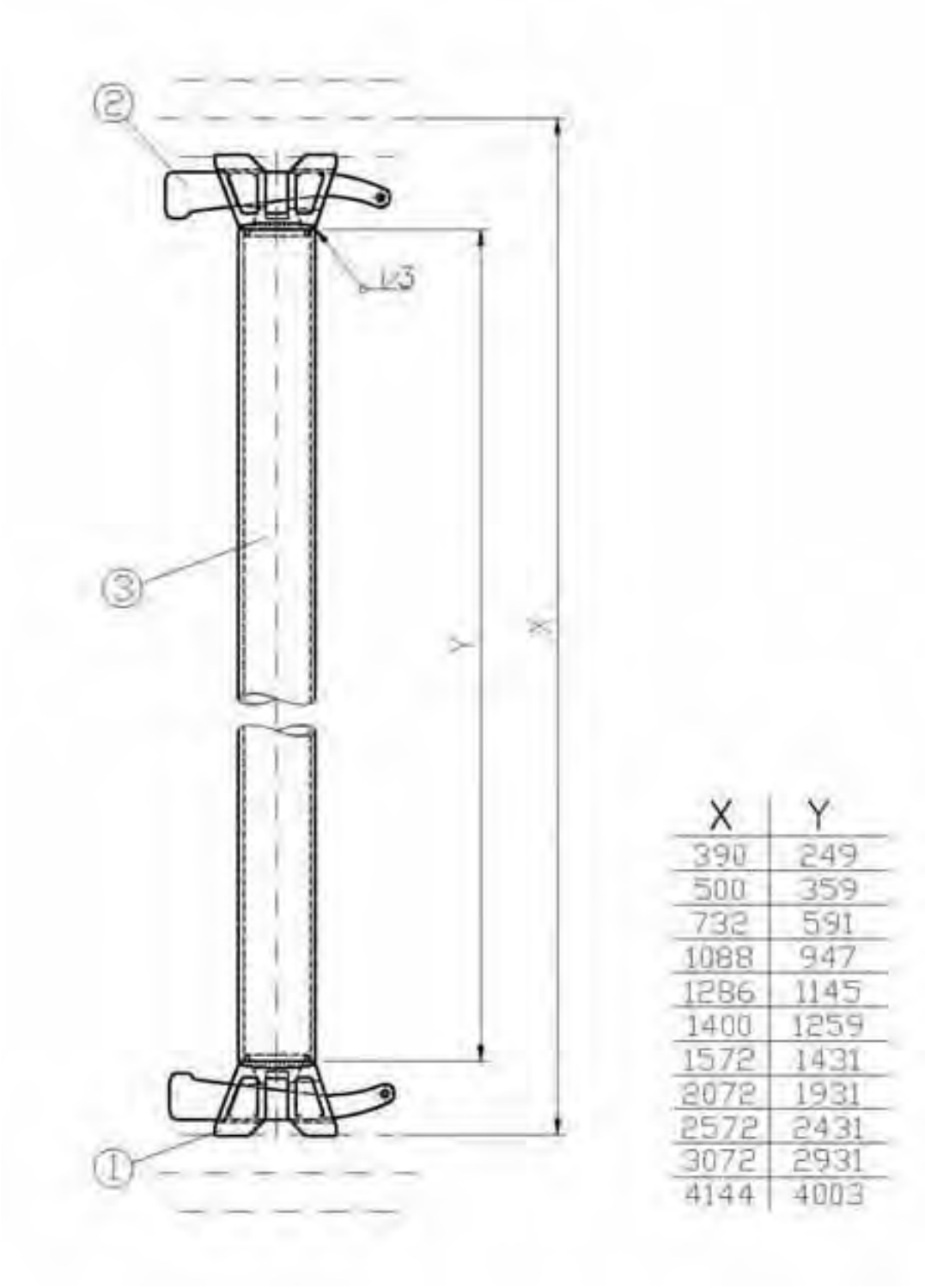
galvanized

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Vertical upright with detachable spigot fitting 520

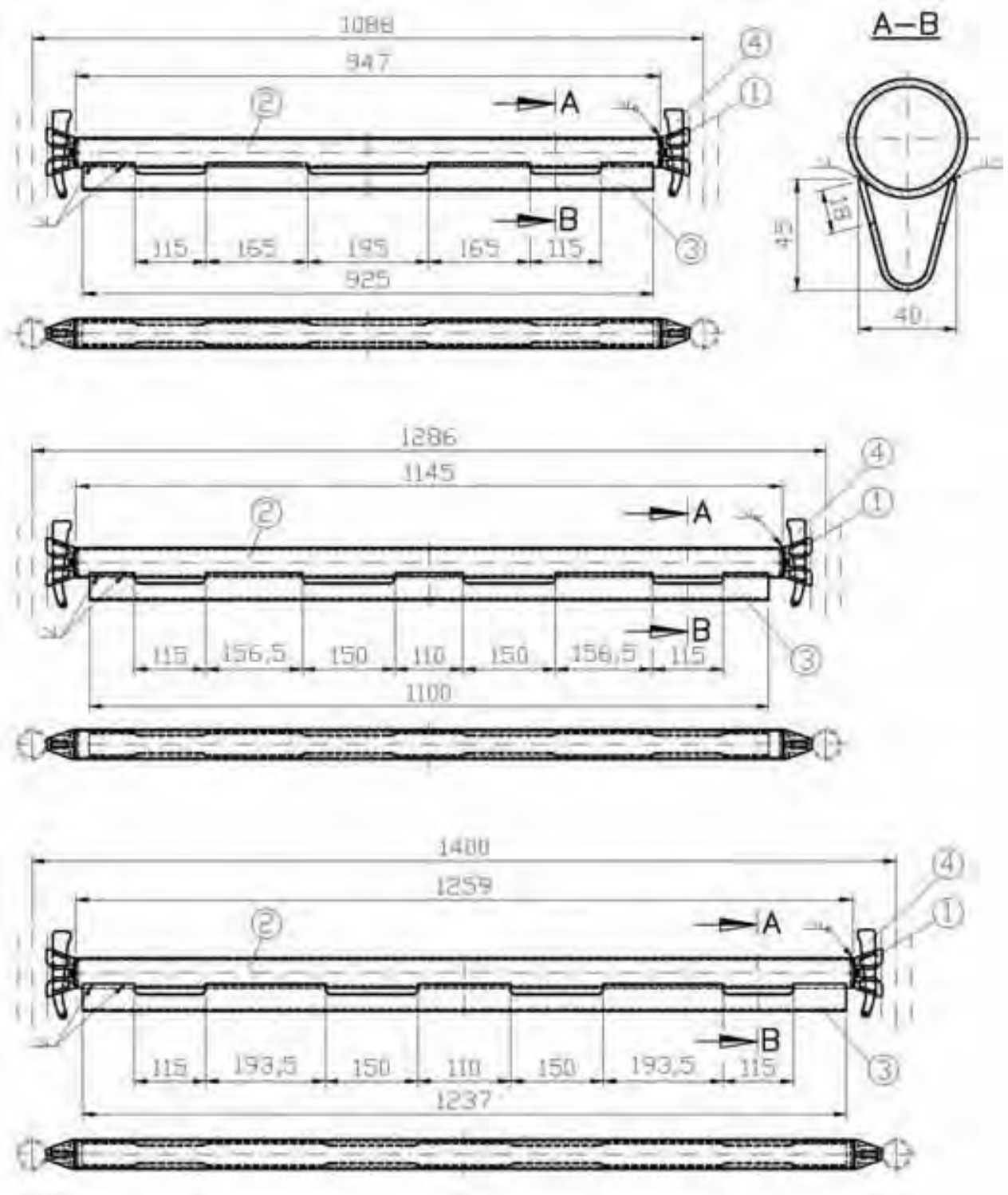
according to Z-8.22-906



X	Y
390	249
500	359
732	591
1088	947
1286	1145
1400	1259
1572	1431
2072	1931
2572	2431
3072	2931
4144	4003

(1) Tube ledger connection
(2) Wedge 6mm S550MC
(3) R 48.3x3.2 S235JRH ReH≥320N/mm²

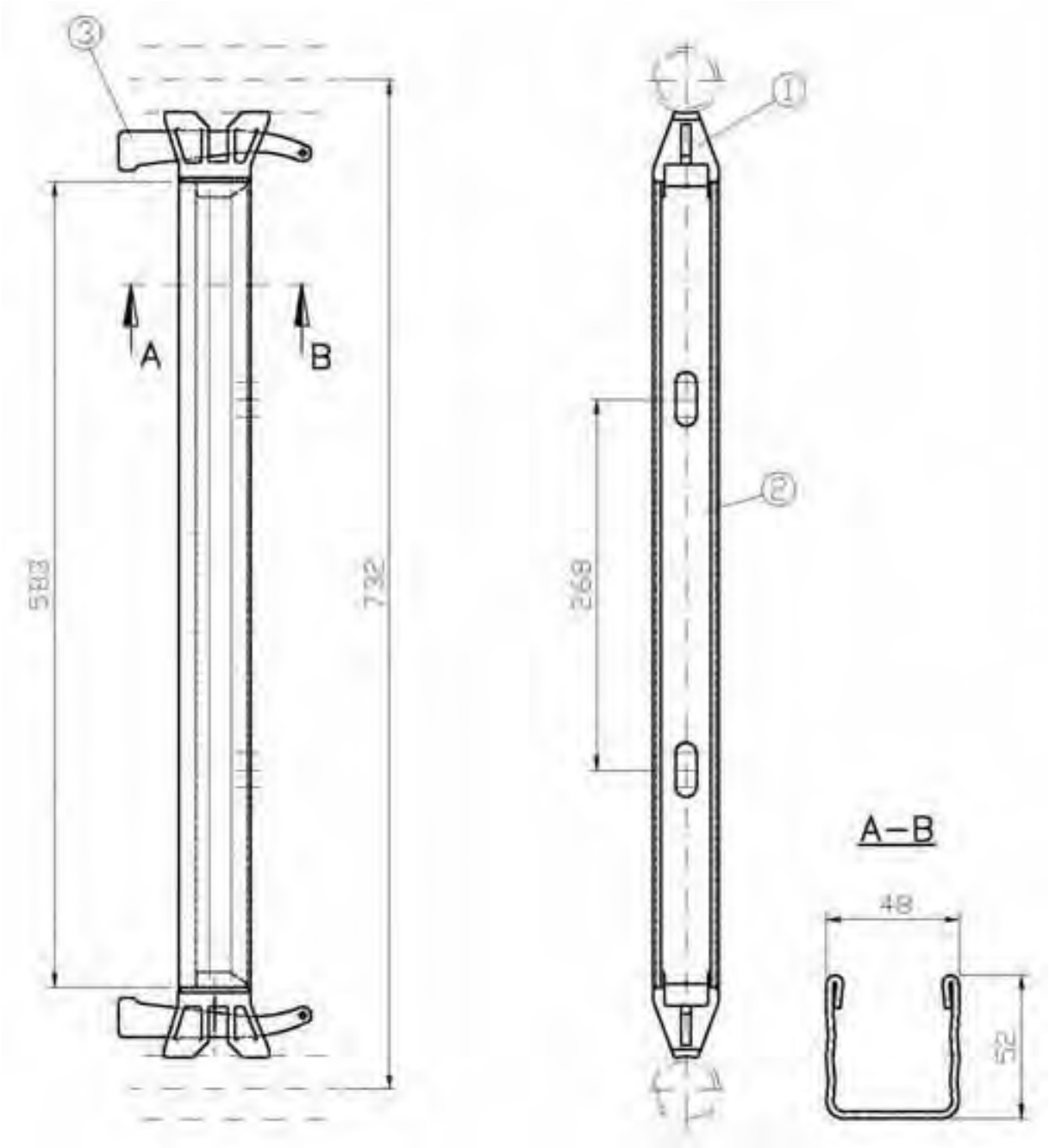
galvanized



(1) Tube ledger connection
(2) R 48.3x3.2 S235JRH ReH≥320N/mm²
(3) BI 3 S235JR
(4) Wedge 6 mm S550MC

galvanized; all welds a=3mm

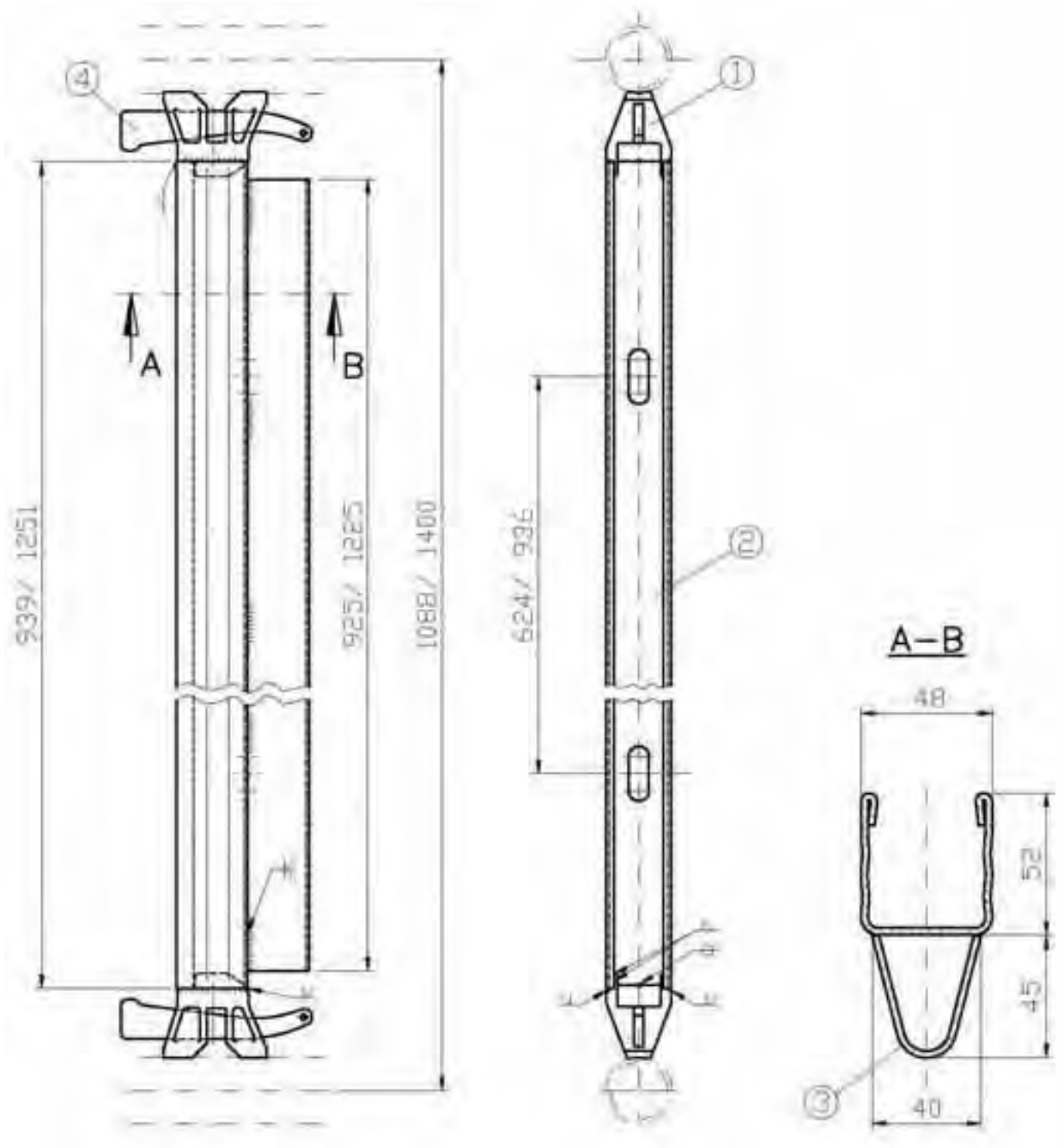
ALFIX GmbH 63828 Edelbach 09603 Großschirma	**ALBLITZ MODUL** **Tube ledger reinforced** according to Z-8.22-906	Annex B, page 14 to the national technical approval Z-8.22-913 of 7. May 2012 Deutsches Institut für Bautechnik M710-B114_ABM



(1) U-ledger connection
(2) U-profile 48x52x2.5 S235JR
(3) Wedge 6mm S550MC

galvanized; all welds a=3mm

ALFIX GmbH 63828 Edelbach 09603 Großschirma	**ALBLITZ MODUL** **U-transom 0.73m** according to Z-8.22-906	Annex B, page 15 to the national technical approval Z-8.22-913 of 7. May 2012 Deutsches Institut für Bautechnik M710-B115_ABM



(1) U-ledger connection
(2) U-profile 48x52x2.5 S235JR
(3) Bl 3 S235JR
(4) Wedge 6mm S550MC

galvanized

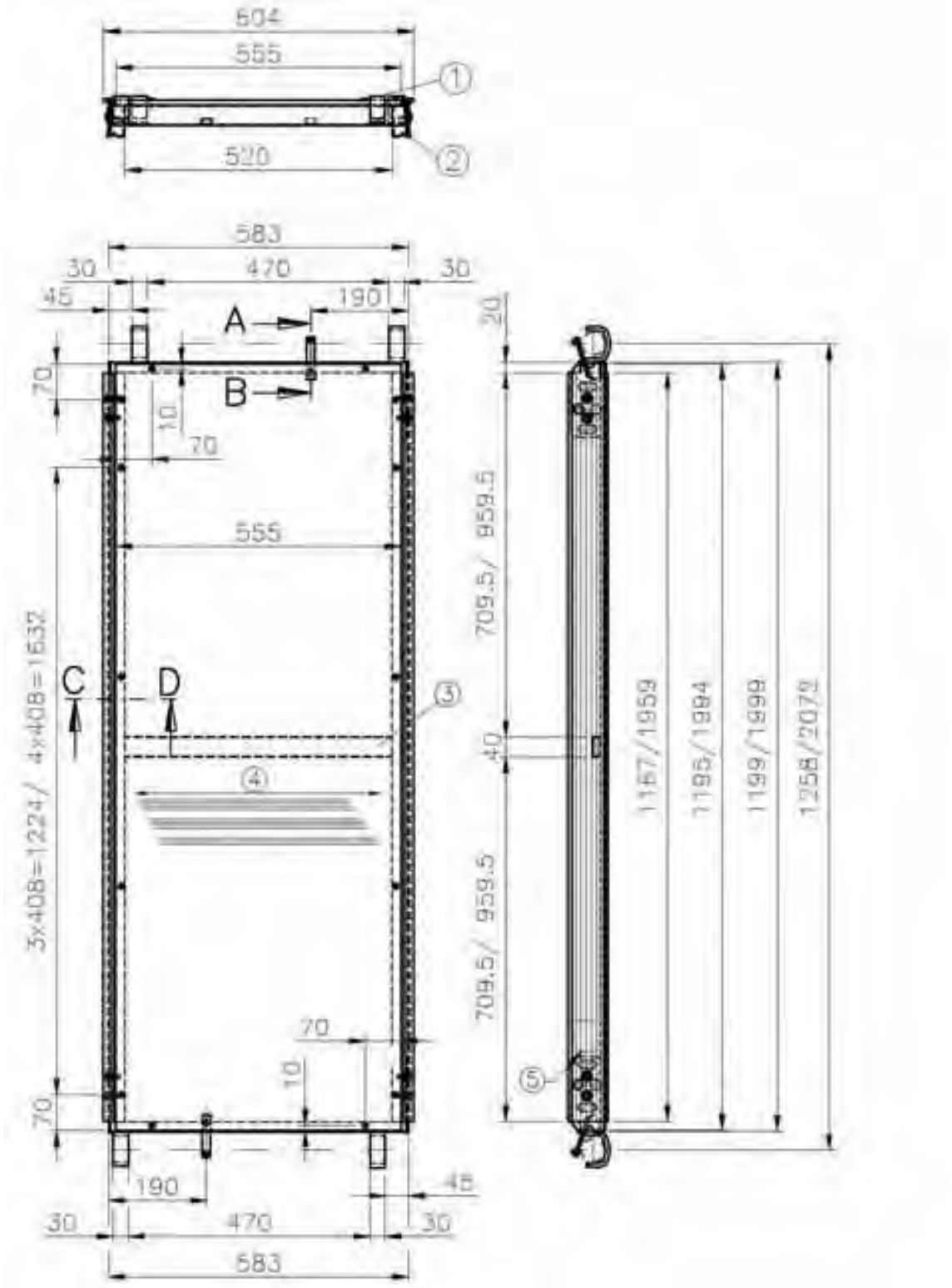
ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

U-transom reinforced

1.09m and 1.40m

according to Z-8.22-906



(1) WISA Combi Mirror plywood 10x555 in acc. with Z-9.1-430 BFU100-G
(2) Brace profile 78x42 EN AW-6063-T66
(3) RHP 40x15x2 EN AW-6063-T66
(4) Fibre direction
(5) Marking

all welds a=2mm Sections and details, see Annex M710-B119 Load class 3

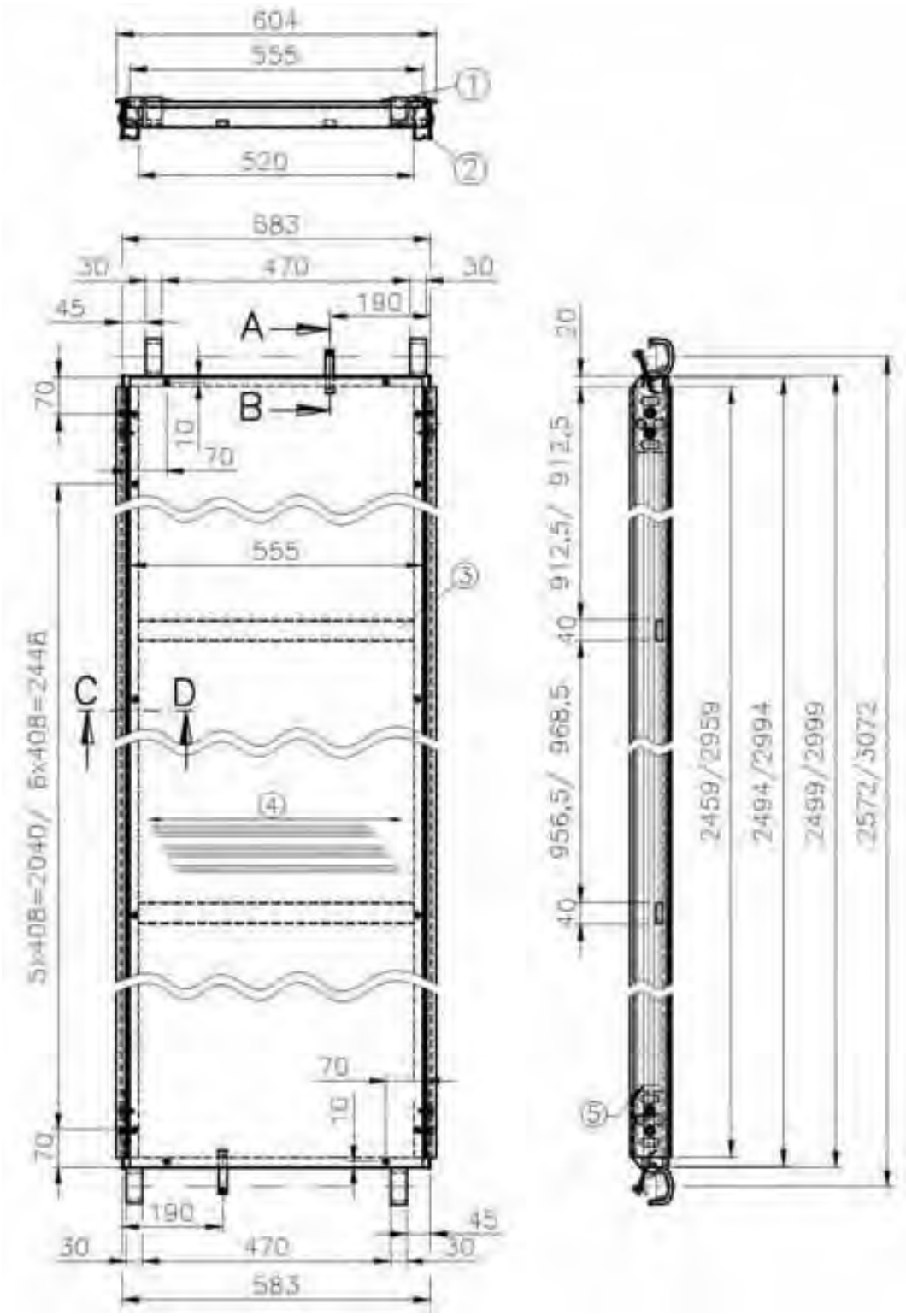
ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Aluminium frame deck RE

1.57m and 2.07m

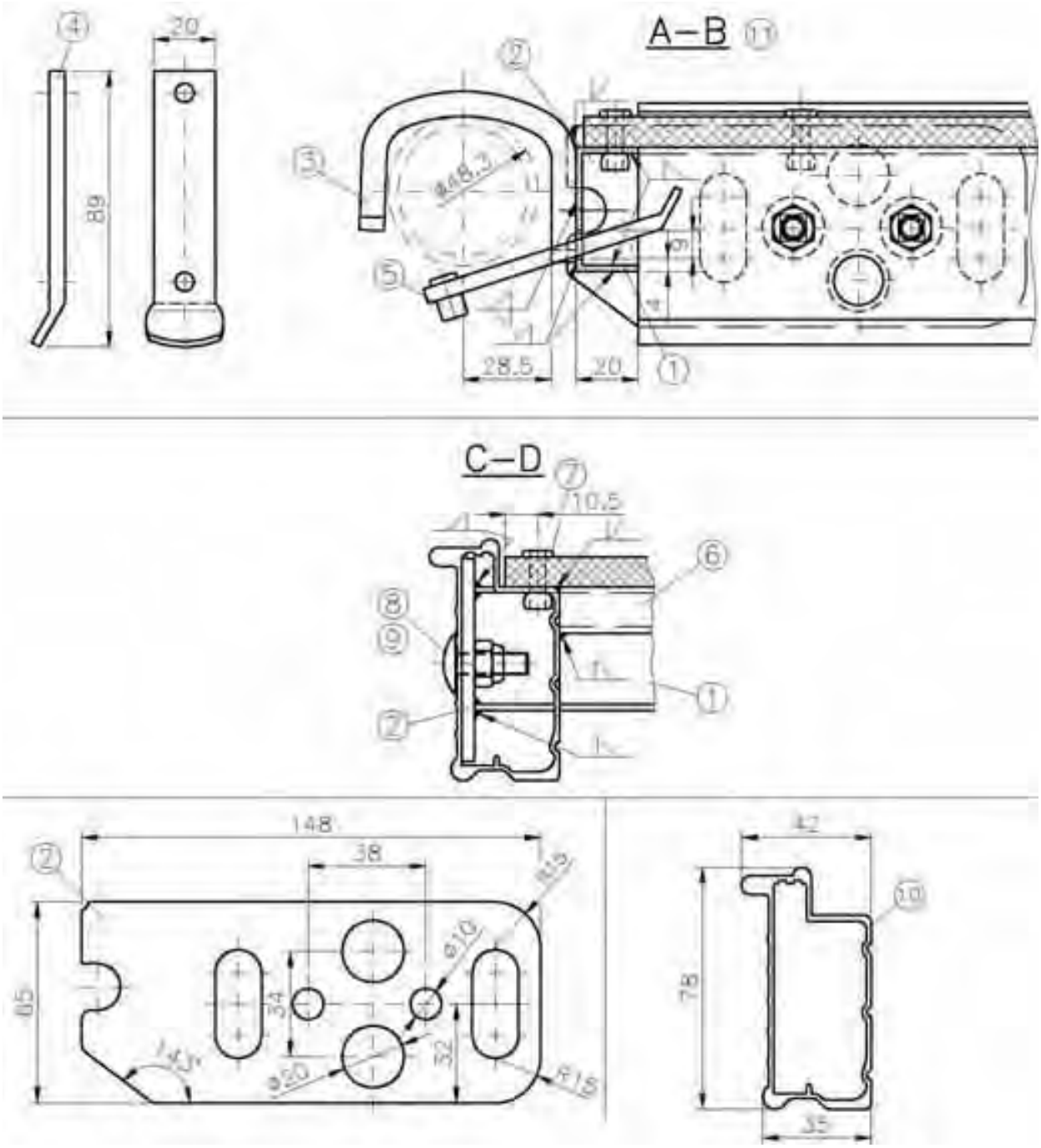
according to Z-8.22-906



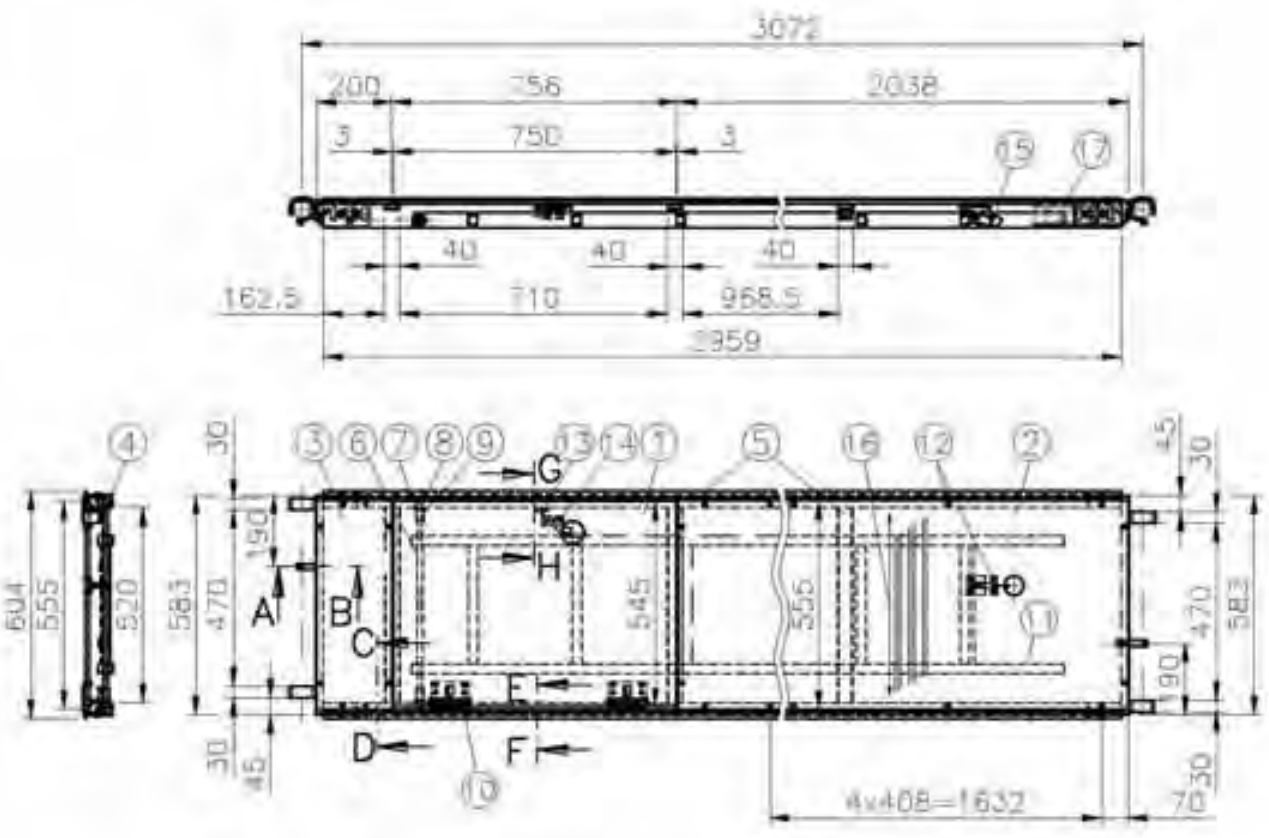
(1) WISA Combi Mirror plywood 10x555 in acc. with Z-9.1-430 BFU 100-G
(2) Brace profile 78x42 EN AW-6063-T66
(3) RV 40x15x2 EN AW-6063-T66
(4) Fibre direction
(5) Marking

all welds a=2mm Sections and details, see Annex M710-B119

Load class 3



(1)	U 40x20x2	S235JR	
(2)	Mounting claw BI 4x65x148	S235JR	
(3)	Bd 30x8	S355J2;	alternatively: S355MC
(4)	Lock against lift-off FI 20x5	S235JR;	galvanized
(5)	Blind rivet 4.8x16	DIN 7337	
(6)	RV 40x15x2	EN AW-6063-T66	
(7)	Blind rivet 5x20	DIN 7337 EN AW-5754 H112	
(8)	Round-head bolt	DIN 603-M8x20	
(9)	Nut, self-locking	DIN 980-M8	
(10)	Aluminium brace profile	EN AW-6063-T66	
(11)	Head piece, galvanized	EN AW-6063-T66	



(1)	WISA Combi Mirror plywood 10x545 in acc. with Z-9.1-430	BFU 100-G
(2)	WISA Combi Mirror plywood 10x555 in acc. with Z-9.1-430	BFU 100-G
(3)	WISA Combi Mirror plywood 10x555 in acc. with Z-9.1-430	BFU 100-G
(4)	Brace profile 78x42	EN AW-6063-T66
(5)	RV 40x15x2	EN AW-6063-T66
(6)	R 15x2	S235JRH
(7)	Disc ∅17	DIN 125
(8)	Cotter pin ∅4x25	DIN 94
(9)	Distance sleeve ∅20x2	PEHD
(10)	Scissor hinge 100x116x3	S235JR, galvanized
(11)	Ladder,	see Annex A709-A115
(12)	Blind rivet ∅5x20	EN AW-5754 H112
(13)	Blind rivet ∅4.8 x10	EN AW-5754 H112
(14)	Blind rivet ∅4.8x16	EN AW-5754 H112
(15)	Ladder holder	
(16)	Fibre direction	
(17)	Marking	

Sections and details, see Annex M710-B119 and M710-B122

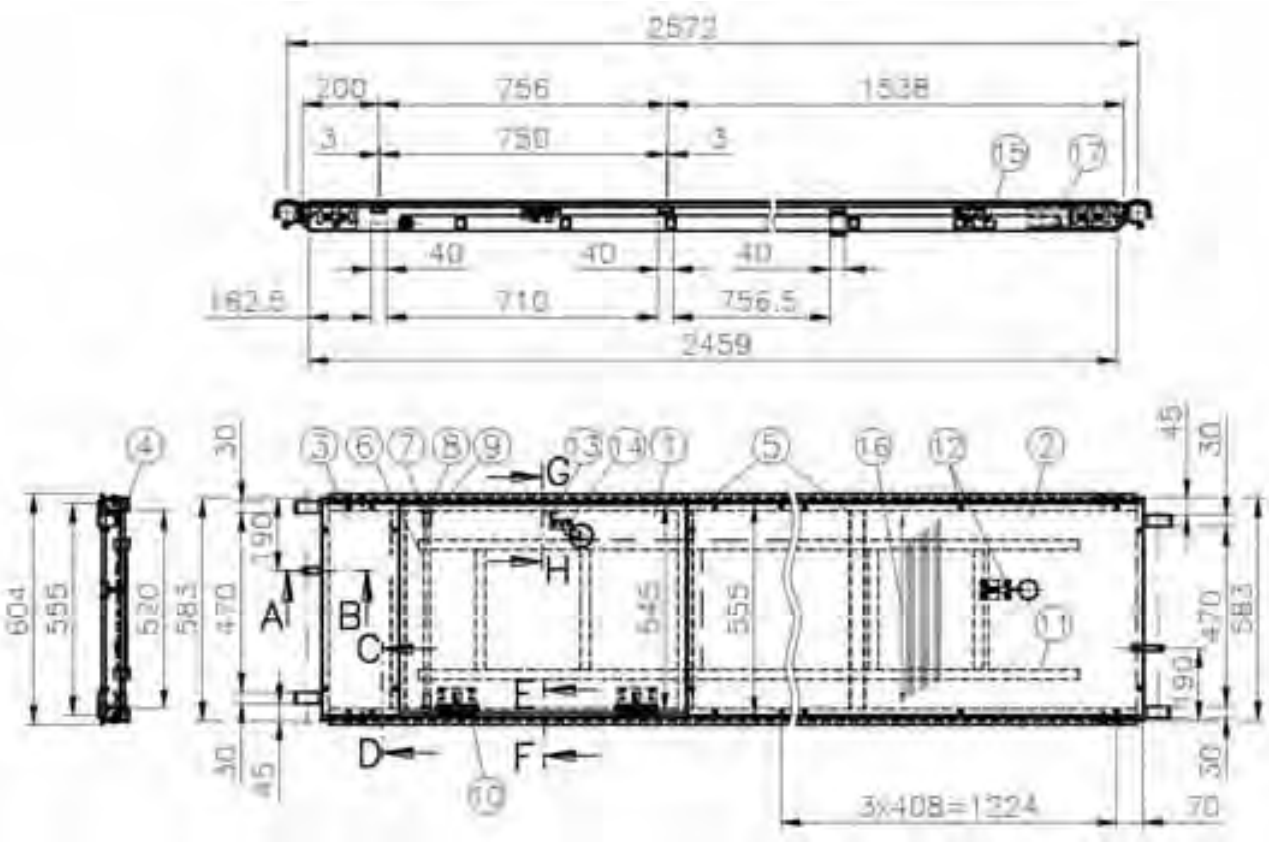
Load class 3

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Aluminium frame deck
with access hatch RE 3.07m

according to Z-8.22-906



(1)	WISA Combi Mirror plywood 10x545 in acc. with Z-9.1-430	BFU 100-G
(2)	WISA Combi Mirror plywood 10x555 in acc. with Z-9.1-430	BFU 100-G
(3)	WISA Combi Mirror plywood 10x555 in acc. with Z-9.1-430	BFU 100-G
(4)	Brace profile 78x42	EN AW-6063-T66
(5)	RV 40x15x2	EN AW-6063-T66
(6)	R 15x2	S235JRH
(7)	Disc ∅17	DIN 125
(8)	Cotter pin ∅4x25	DIN 94
(9)	Distance sleeve ∅20x2	PEHD
(10)	Scissor hinge 100x116x3	S235JR, galvanized
(11)	Ladder,	see Annex A709-A115
(12)	Blind rivet ∅5x20	EN AW-5754 H112
(13)	Blind rivet ∅4.8 x10	EN AW-5754 H112
(14)	Blind rivet ∅4.8x16	EN AW-5754 H112
(15)	Ladder holder	
(16)	Fibre direction	
(17)	Marking	

Sections and details, see Annex M710-B119 and M710-B122

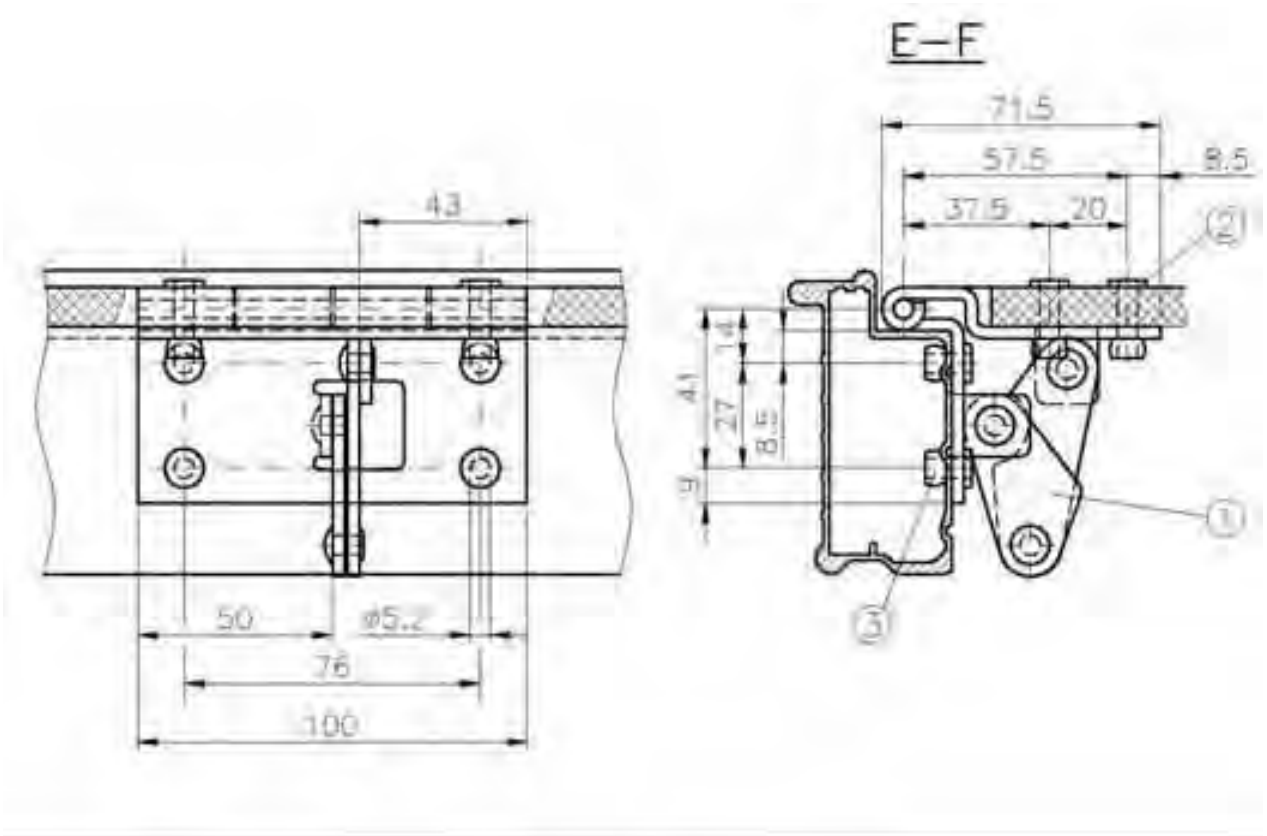
Load class 3

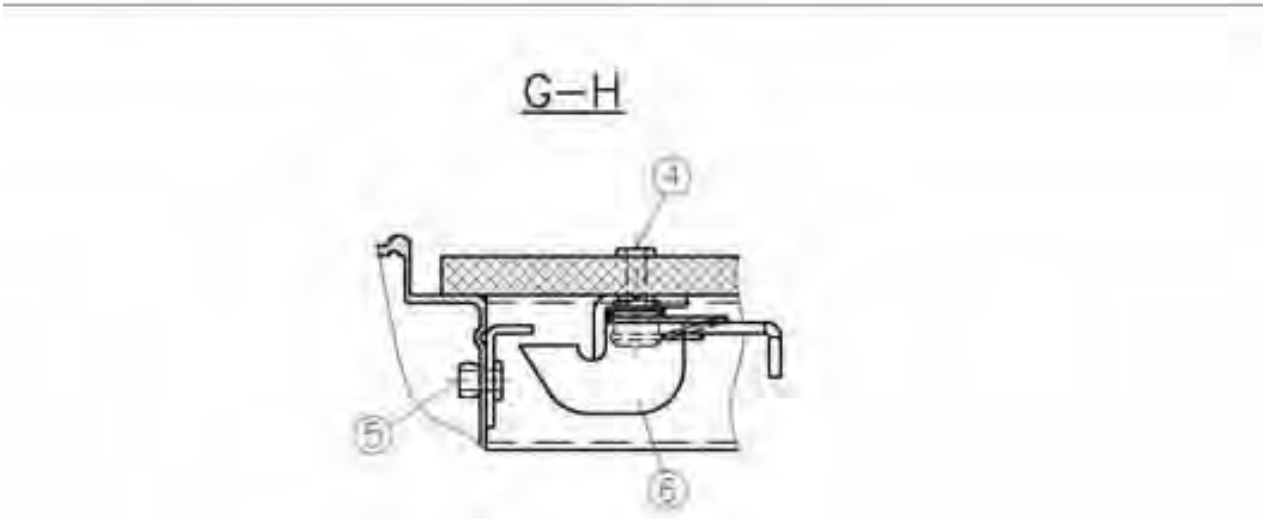
ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Aluminium frame deck
with access hatch RE 2.57m

according to Z-8.22-906





(1) Hinge 100x100x3
(2) Blind rivet 5x20 DIN 7337 EN AW-5754 H112
(3) Blind rivet 5x12 DIN 7337 EN AW-5754 H112
(4) Blind rivet 5x18 DIN 7337 EN AW-5754 H112
(5) Blind rivet 4.8x10 DIN 7337 EN AW-5754 H112
(6) Ledger

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

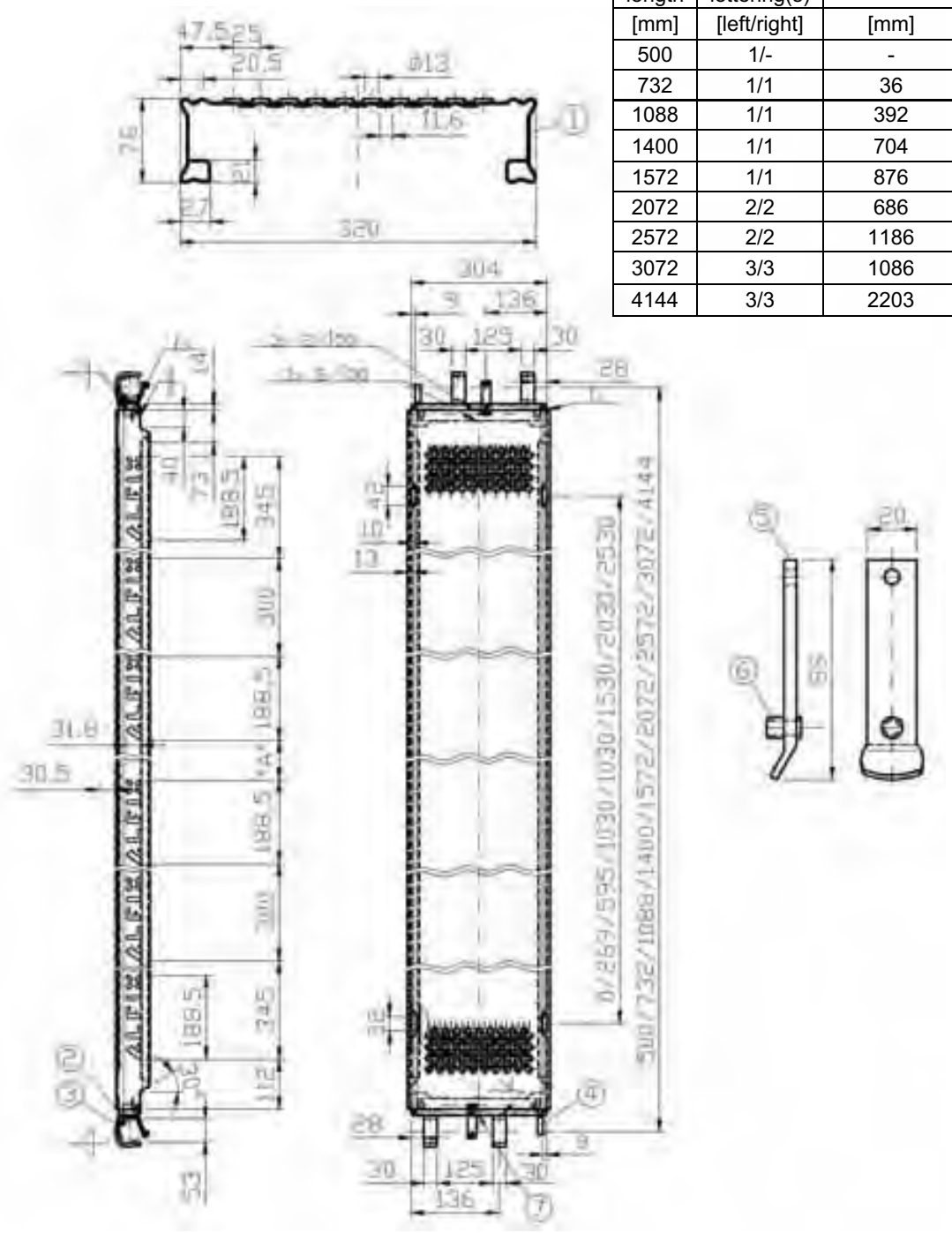
Details

Aluminium frame deck

with access hatch RE

according to Z-8.22-906

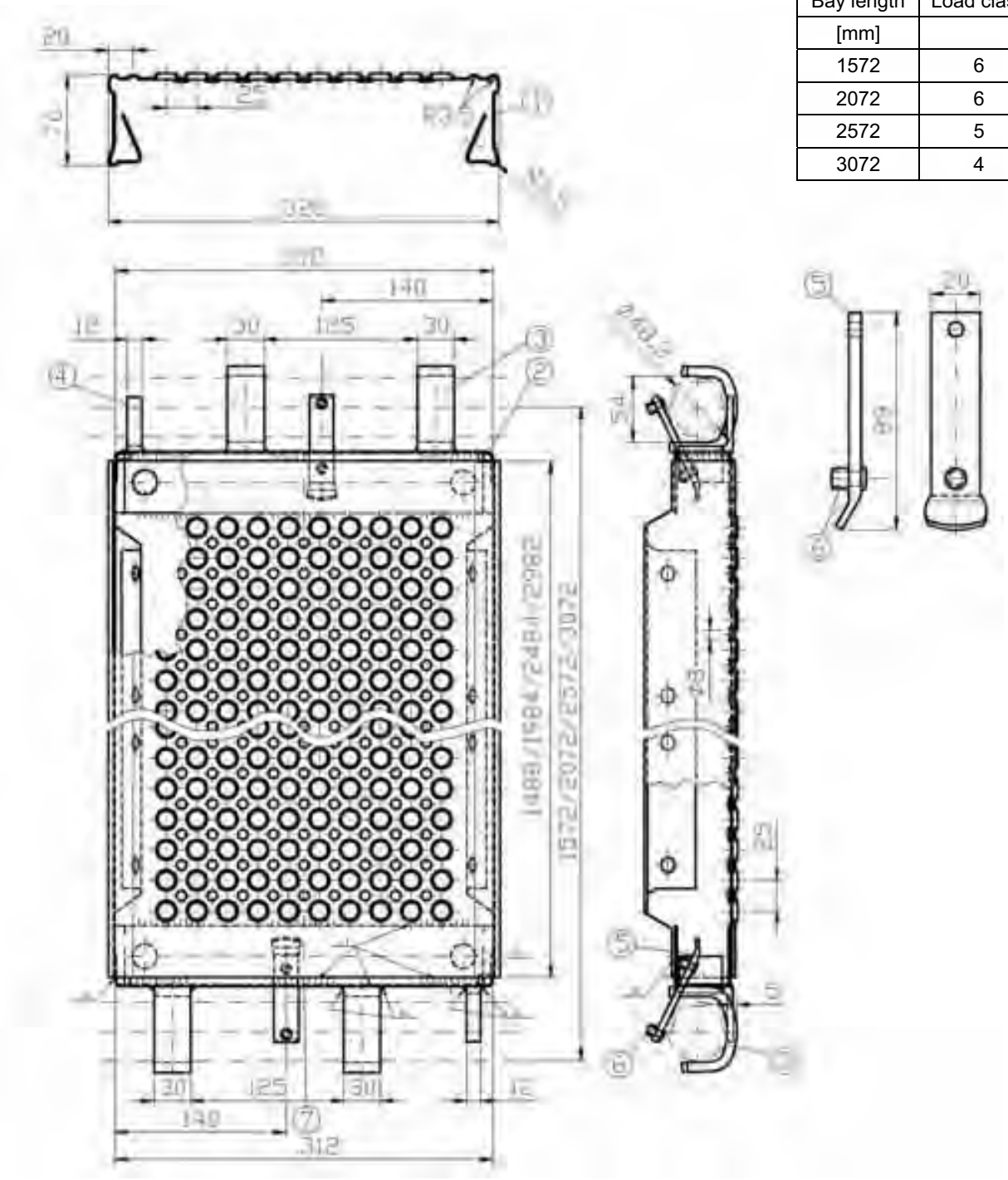
Bay length	Number of lettering(s)	Size “A“	Load class
[mm]	[left/right]	[mm]	
500	1/-	-	6
732	1/1	36	6
1088	1/1	392	6
1400	1/1	704	6
1572	1/1	876	6
2072	2/2	686	6
2572	2/2	1186	5
3072	3/3	1086	4
4144	3/3	2203	3



(1)	Bd 1,5mm	DIN EN 10111-DD11	ReH≥280N/mm²	Rm≥360N/mm²
	alternatively	DIN EN 10025-2 S235JR	ReH≥280N/mm²	Rm≥360N/mm²
(2)	Bd 2mm	DIN EN 10111-DD11	ReH≥240N/mm²	Rm≥360N/mm²
(3)	Bd 30x8	S355J2 alternatively: S355MC		
(4)	L 45x45x5	S235JR		
(5)	Fl 20x5	S235JR		
(6)	Blind rivet Ø4.8x16	DIN 7337		
(7)	Marking			

galvanized; all welds a=2mm

Bay length	Load class
[mm]	
1572	6
2072	6
2572	5
3072	4



(1)	Bd 590x1,5	DIN EN 10111- DD11	ReH≥280N/mm²
(2)	Bd 140x2	DIN EN 10111- DD11	ReH≥280N/mm²
(3)	Bd 30x8	S355J2 alternatively: S355MC	
(4)	L 45x45x5	S235JR	
(5)	Fl 20x5	S235JR	
(6)	Blind rivet Ø4.8x16	DIN 7337	
(7)	Marking:	manufacturer's mark – AF XX – year of manufacture	

galvanized; all welds a=2mm

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

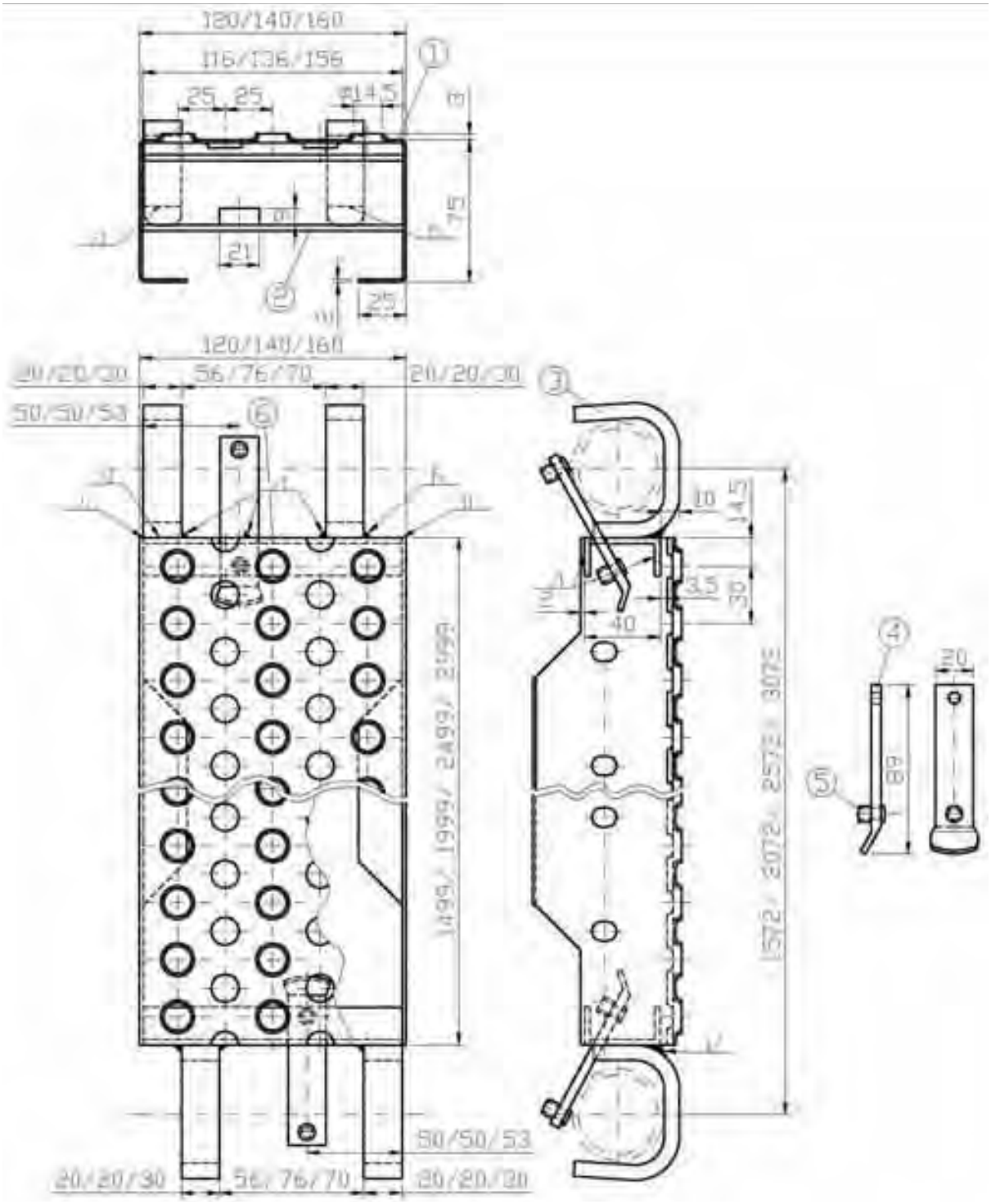
Steel plank RE

according to Z-8.22-906

Former design

Annex B, page 24 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

M709-B023_ABM



(1) Profiled safety grating, round
(2) U 40x20x3 S235JR
(3) Bd 20x8/30x8 S355J2 alternatively S355MC
(4) Fl 20x5 S235JR
(5) Blind rivet Ø4.8x16 DIN 7337
(6) Marking: manufacturer's mark – AF XX – year of manufacture

galvanized; all welds a=3mm

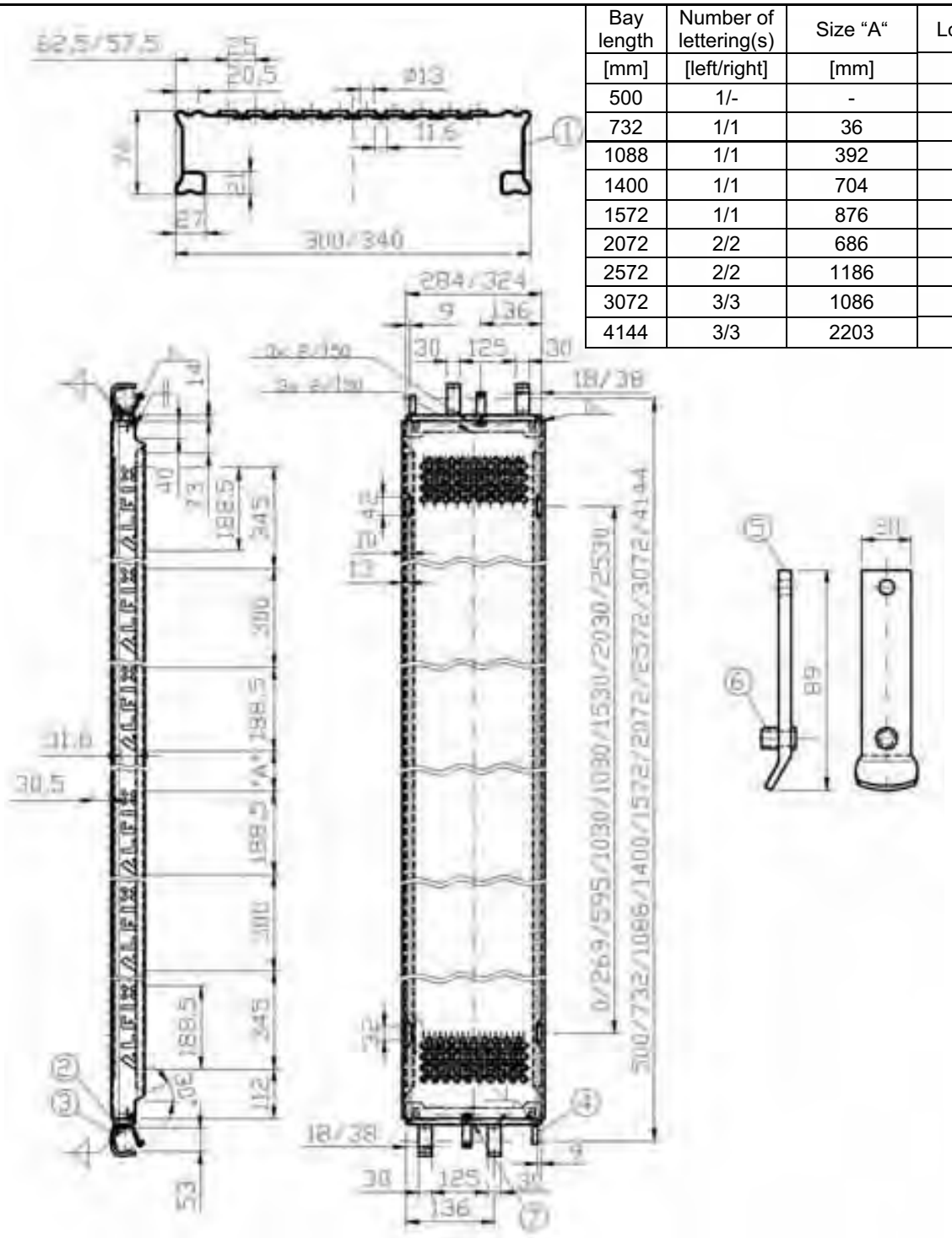
ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Intermediate deck RE

according to Z-8.22-906

Bay length	Number of lettering(s)	Size “A“	Load class
[mm]	[left/right]	[mm]	
500	1/-	-	6
732	1/1	36	6
1088	1/1	392	6
1400	1/1	704	6
1572	1/1	876	6
2072	2/2	686	6
2572	2/2	1186	5
3072	3/3	1086	4
4144	3/3	2203	3



(1)	Bd 1,5mm	DIN EN 10111-DD11	ReH≥280N/mm²	Rm≥360N/mm²
	alternatively:	DIN EN 10025-2 S235JR	ReH≥280N/mm²	Rm≥360N/mm²
(2)	Bd 2mm	DIN EN 10111-DD11	ReH≥240N/mm²	Rm≥360N/mm²
(3)	Bd 30x8	S355J2 alternatively: S355MC		
(4)	L 45x45x5	S235JR		
(5)	Fl 20x5	S235JR		
(6)	Blind rivet Ø4.8x16	DIN 7337		
(7)	Marking			

galvanized; all welds a=2mm

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

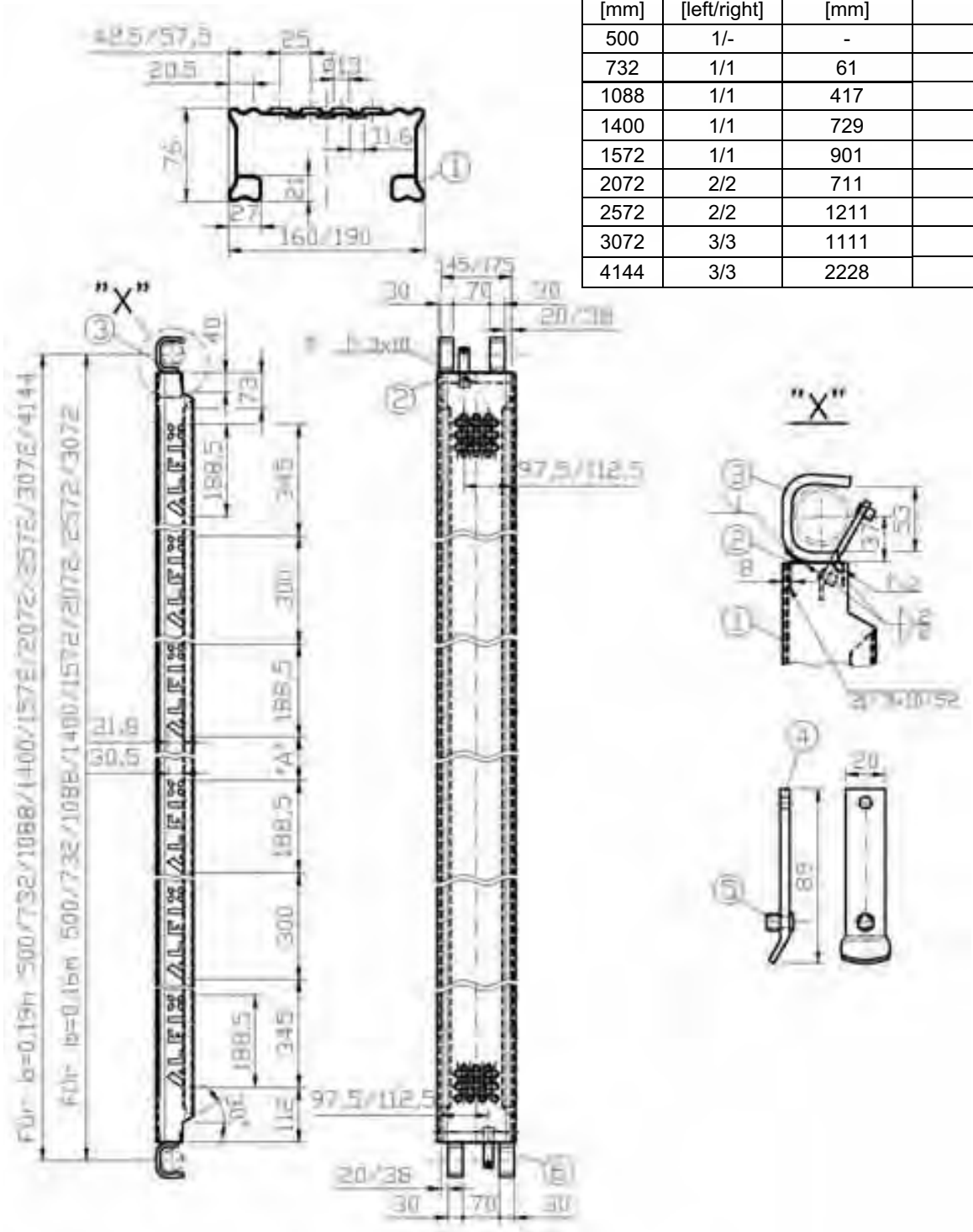
Steel plank AF RE 0.30m, 0.34m

according to Z-8.22-906

Annex B, page 26 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

M711-B206

Bay length	Number of lettering(s)	Size “A“	Load class
[mm]	[left/right]	[mm]	
500	1/-	-	6
732	1/1	61	6
1088	1/1	417	6
1400	1/1	729	6
1572	1/1	901	6
2072	2/2	711	6
2572	2/2	1211	5
3072	3/3	1111	4
4144	3/3	2228	3



(1) Bd 1,5mm DIN EN 10111-DD11 ReH≥280N/mm² Rm≥360N/mm²
alternatively: DIN EN 10025-2 S235JR ReH≥280N/mm² Rm≥360N/mm²
(2) U 45x20x2 S235JR
(3) Bd 30x8 S355J2 alternatively: S355MC
(4) Fl 20x5 S235JR
(5) Blind rivet Ø4.8x16 DIN 7337
(6) Marking

galvanized; all welds a=2mm

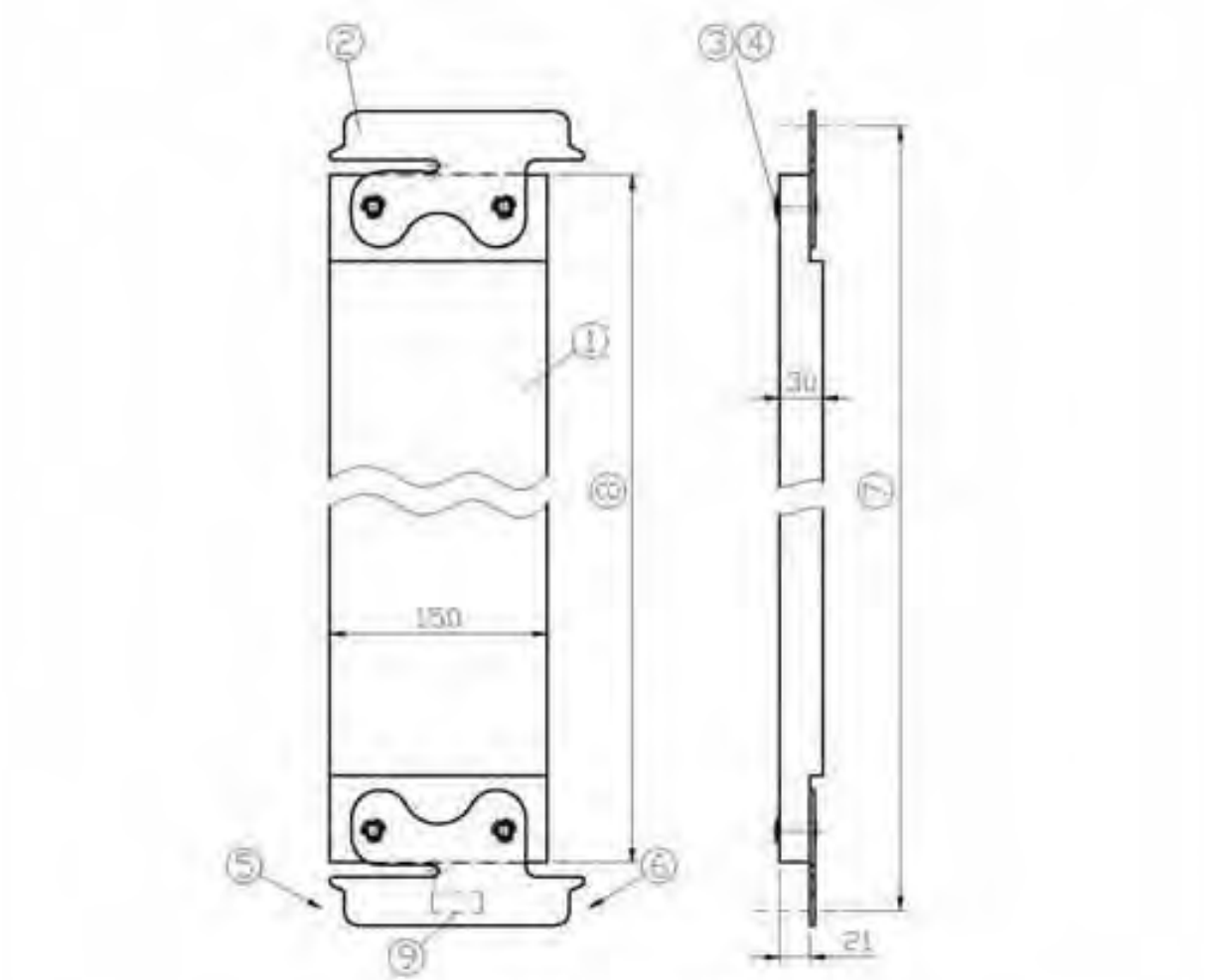
ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Intermediate deck AF RE

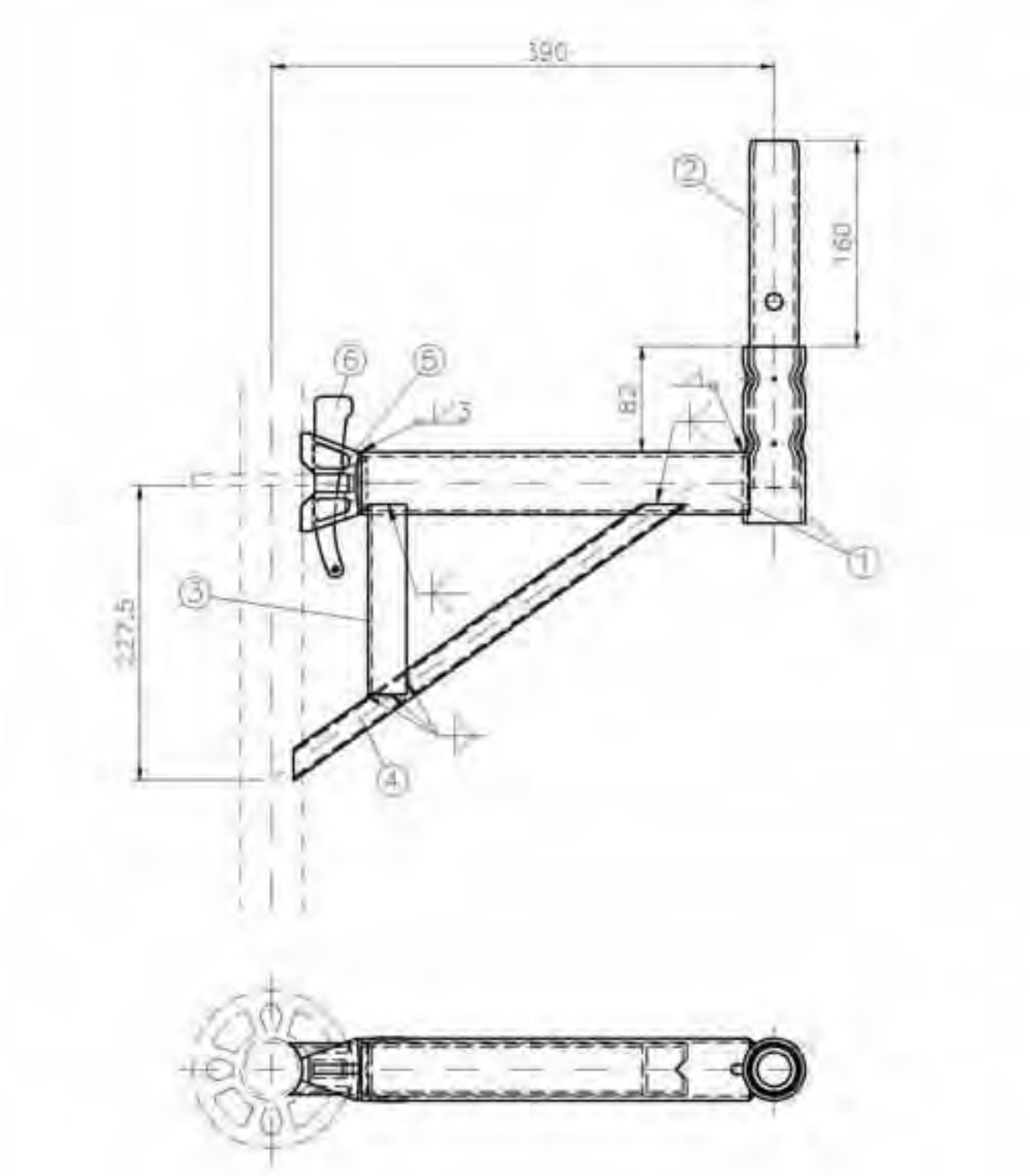
0.16m, 0.19m

according to Z-8.22-906



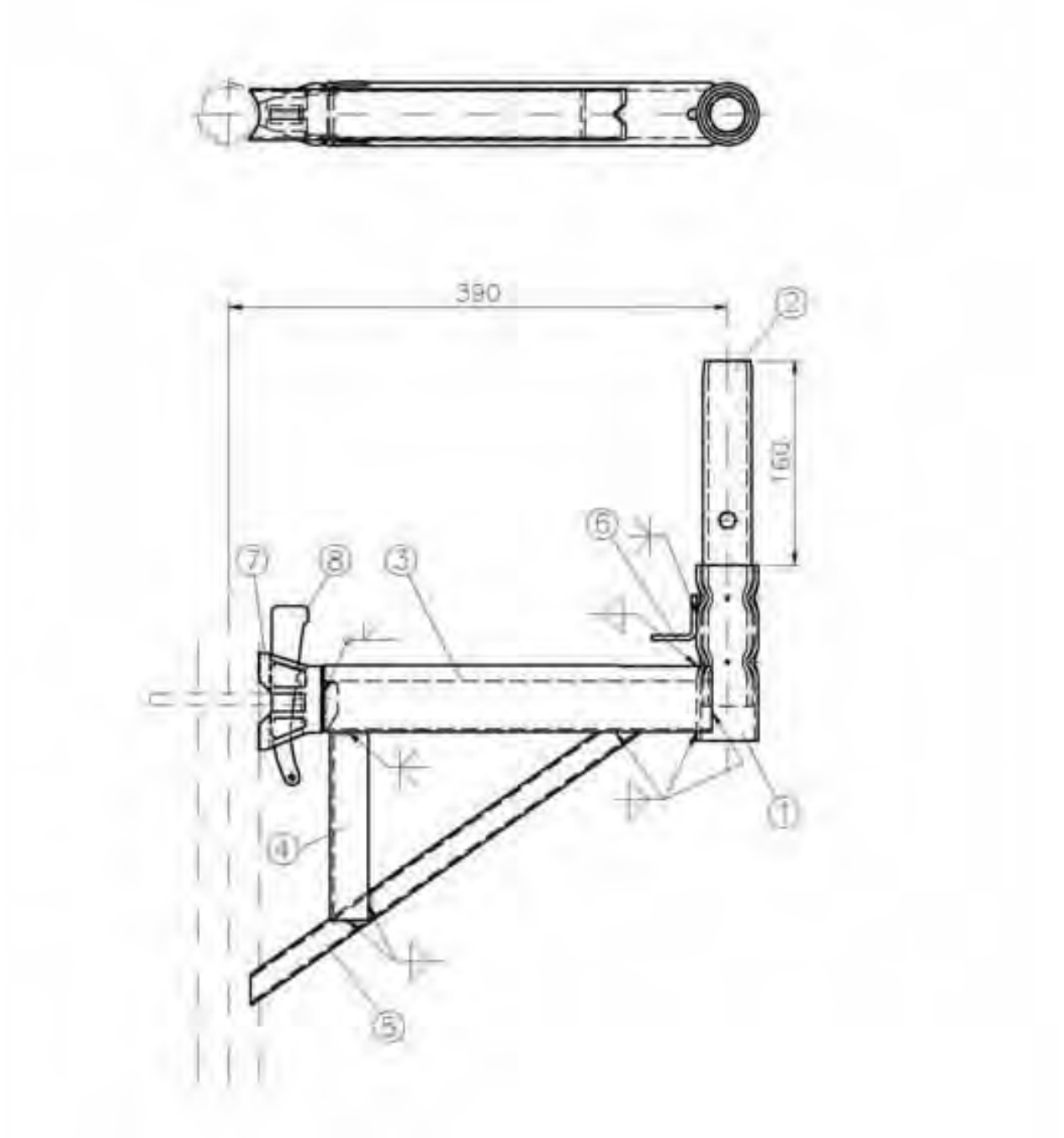
7	8
390	323
732	665
1088	1021
1400	1333
1572	1505
2072	2005
2572	2505
3072	3005

(1)	Board	DIN 4074 – S10-Fi
(2)	Slit strip 175x2	DIN EN 10111-DD11 galvanized
(3)	Tube rivet	DIN 7340 – A8x0.75x28-steel, zinc-plated
(4)	Disc	DIN 125 – A8.4–steel, galvanized
(5)	Tube ledger connection	
(6)	U-ledger connection	
(7)	Bay length	
(8)	Length L	
(9)	Marking	



(1)	R 48.3x3.2	S235JRH	ReH≥320N/mm^2
(2)	R 38x3.6	S235JR	ReH≥320N/mm^2
(3)	U 50x30x3; L=147	S235JR	
	alternatively: U 47x30x3	S235JR	
(4)	RV 40x20x2	S235JRH	
(5)	Tube ledger connection		
(6)	Wedge 6mm	S550MC	

galvanized; all welds a=3mm



(1)	R 48.3x3.2	S235JRH	ReH≥320N/mm^2
(2)	R 38x3.6	S235JR	ReH≥320N/mm^2
(3)	U-profile 48x52x2.5	S235JR	
(4)	U 50x30x3; L=147	S235JR	
	alternatively: U 47x30x3	S235JR	
(5)	RV 40x20x2	S235JRH	
(6)	Fl 35x4	S235JR	
(7)	U-ledger connection		
(8)	Wedge 6mm	S550MC	

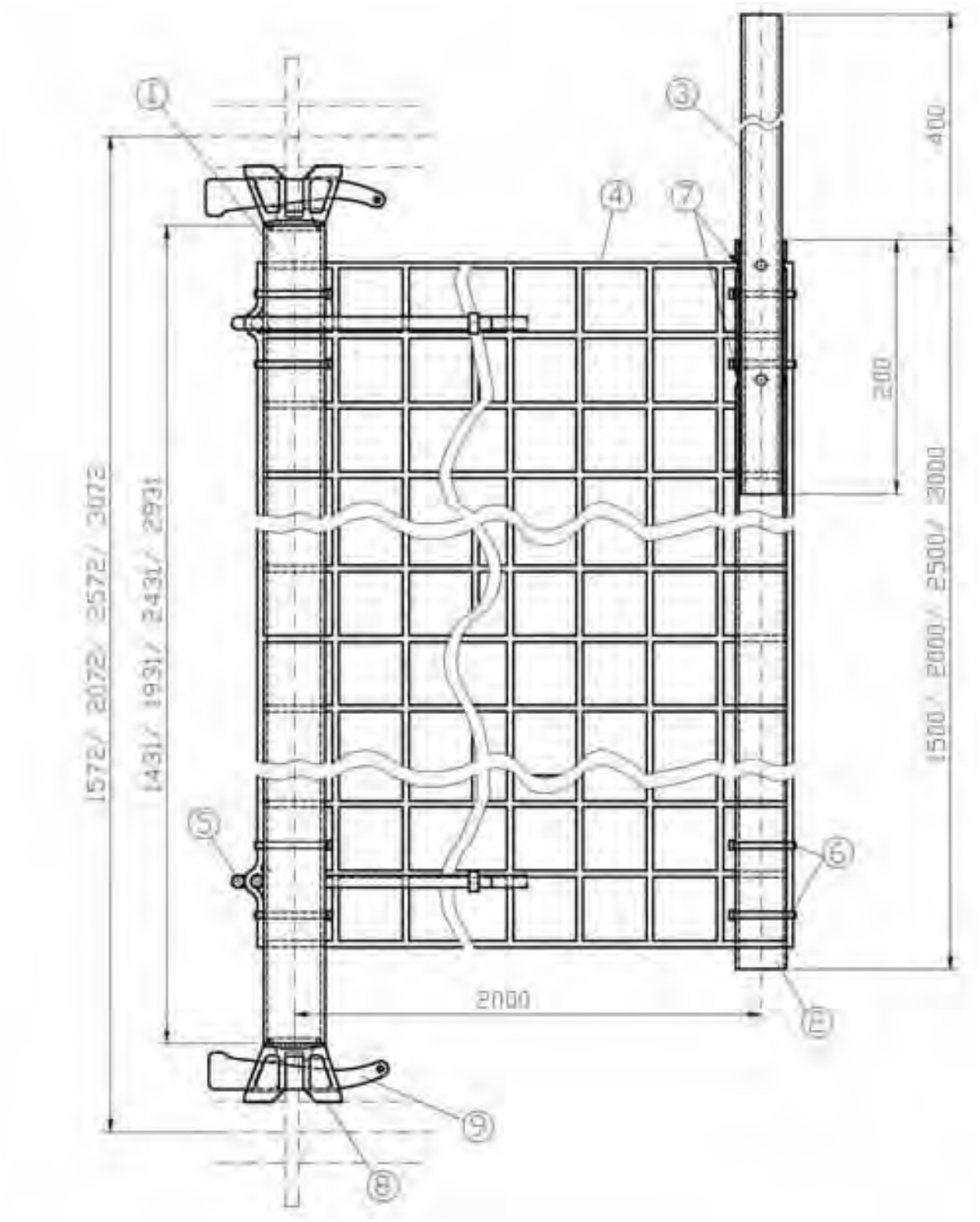
galvanized; all welds a=2.5mm

ALFIX GmbH
63828 Edelbach
09603 Großschirma

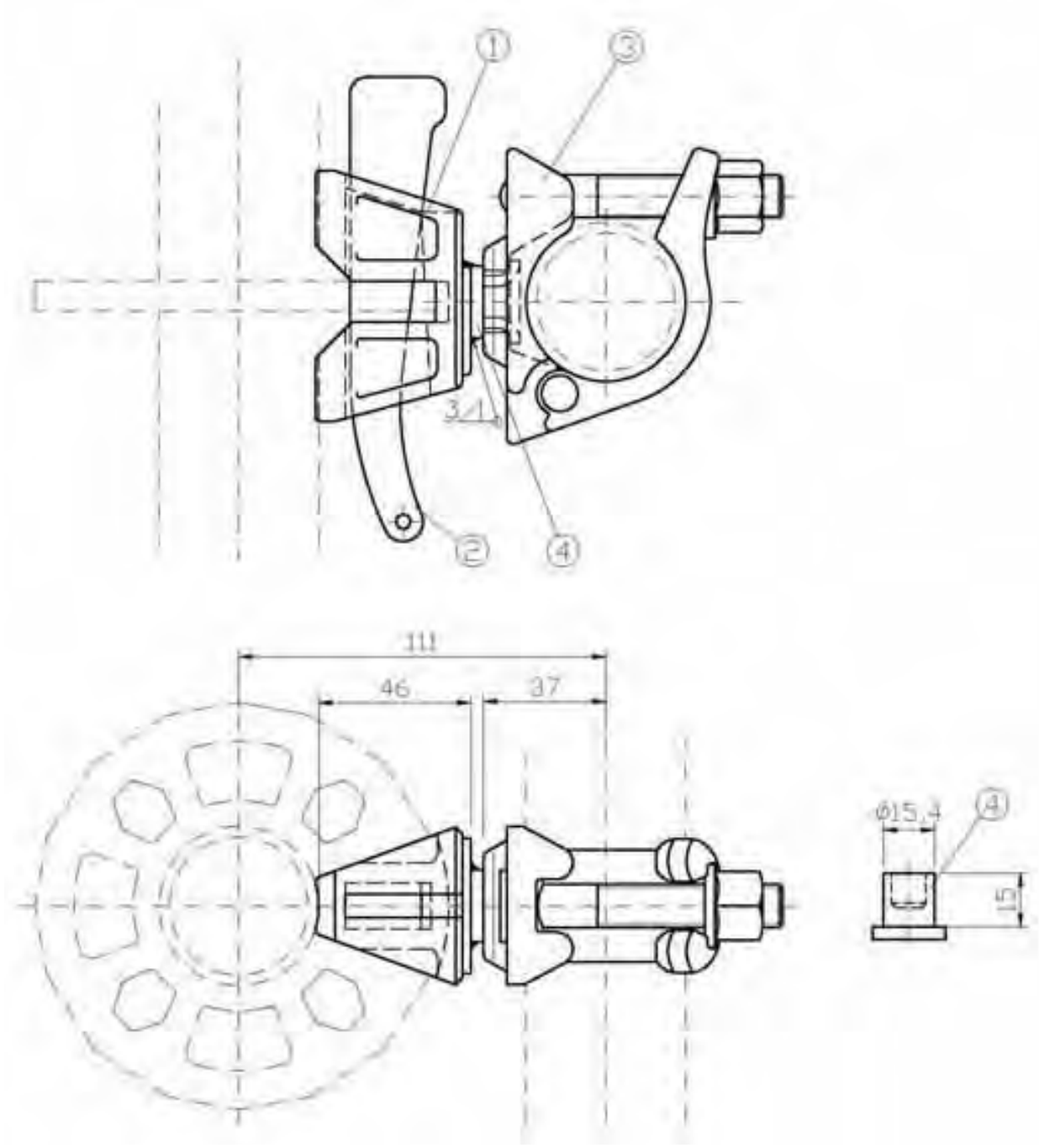
ALBLITZ MODUL

Modular bracket 0.39m

according to Z-8.22-906



(1) Tube ledger
(2) R 40x2.5 EN AW-6060-T66
(3) R 32x3 EN AW-6060-T66
(4) Safety mesh guard DIN EN 1263-1-U-A2-M100-Q
(5) Rope Ø10x3500 Polyamide
(6) Cable tie 5x270
(7) 4x circumferentially pressed
(8) Tube ledger connection
(9) Wedge 6mm S550MC



(1) U-ledger connection
(2) Wedge 6mm S550MC
(3) Halfcoupler, class B
(4) Rivet, wedge head coupler QST 36

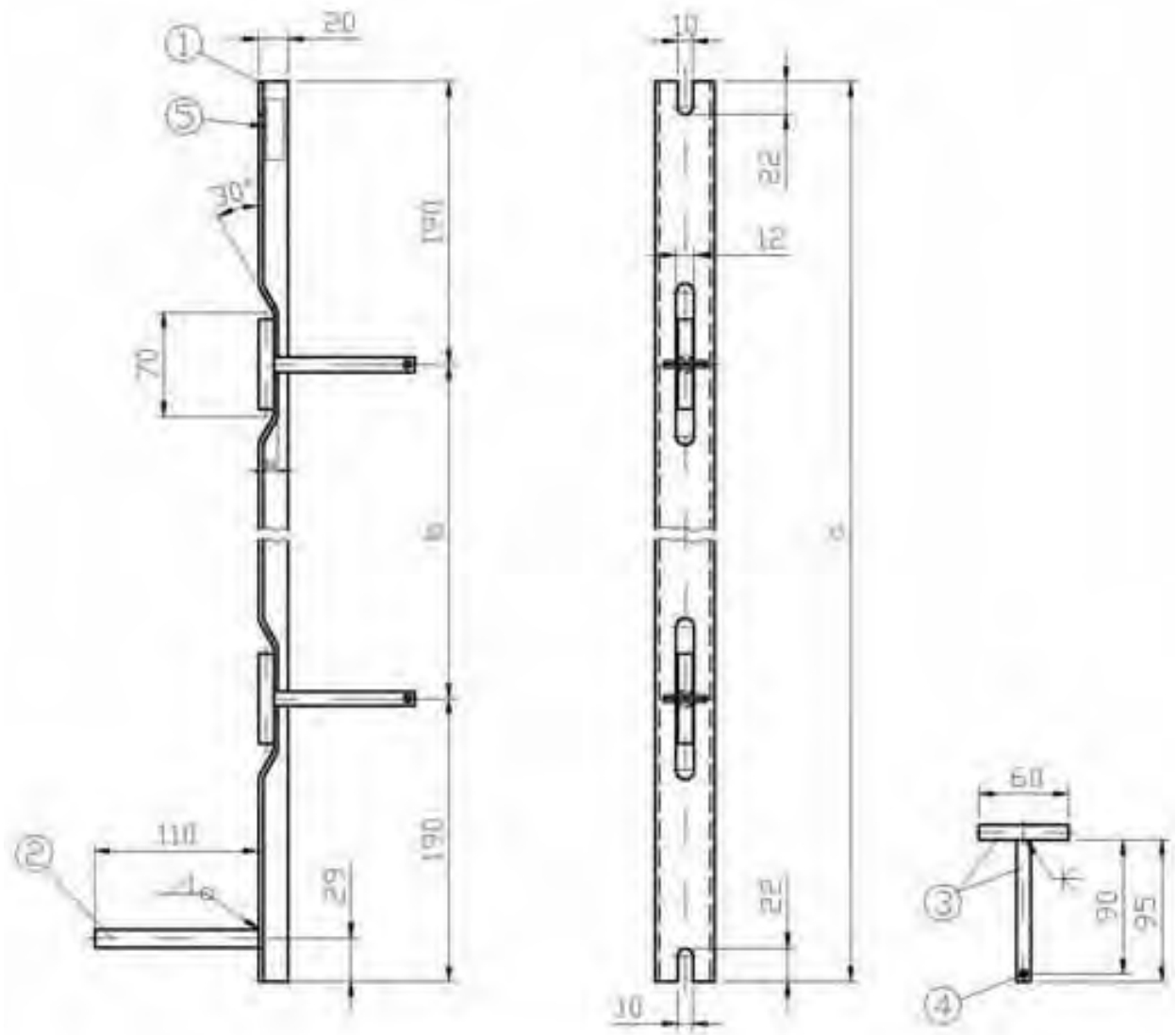
galvanized

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Wedge head coupler, swivelling

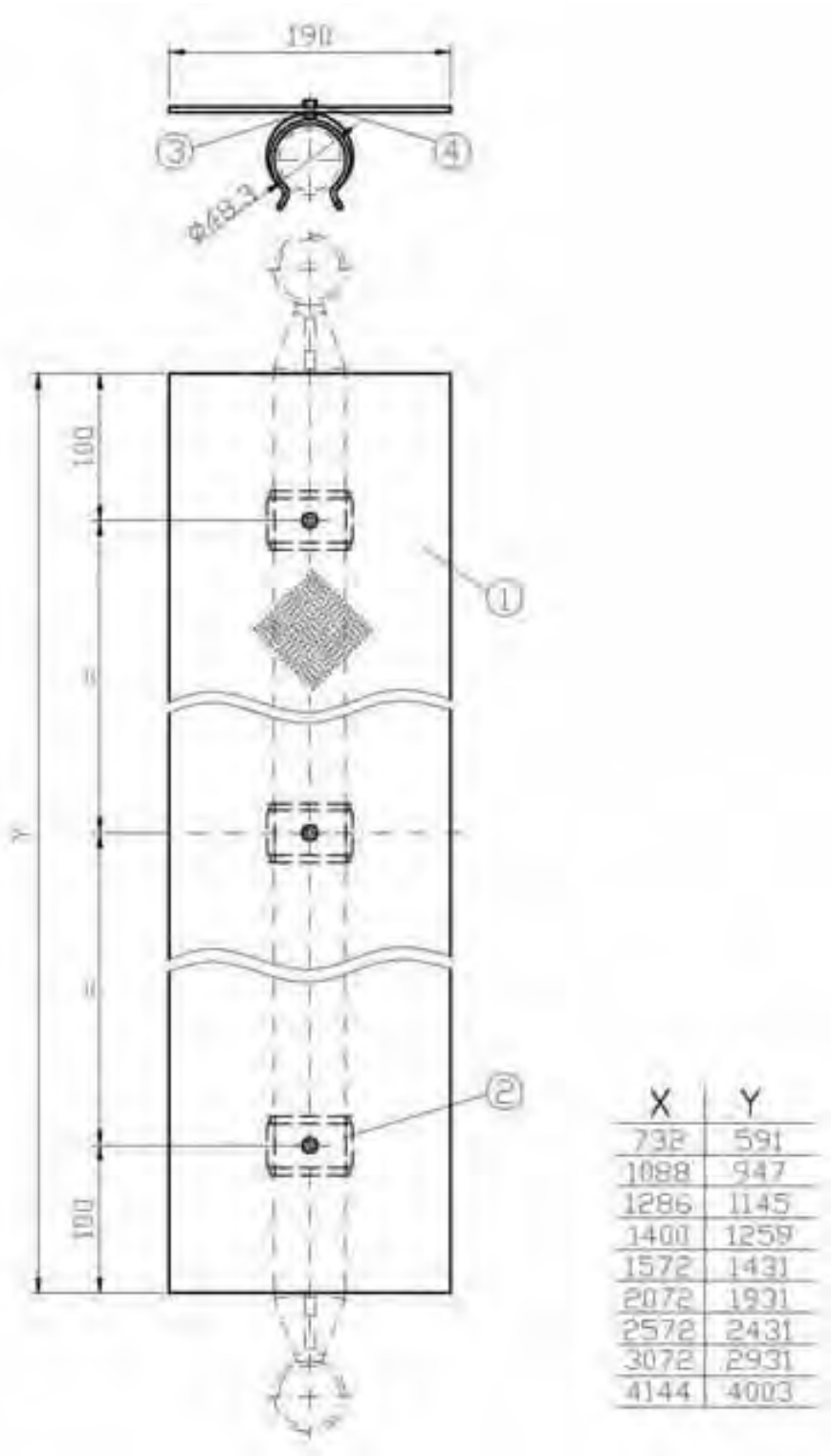
according to Z-8.22-906



⑥	a (mm)	b (kN)
732	648	268
1088	1004	624
1400	1316	936
1572	1488	1108
2072	1988	1608
2572	2488	2108
3072	2988	2608

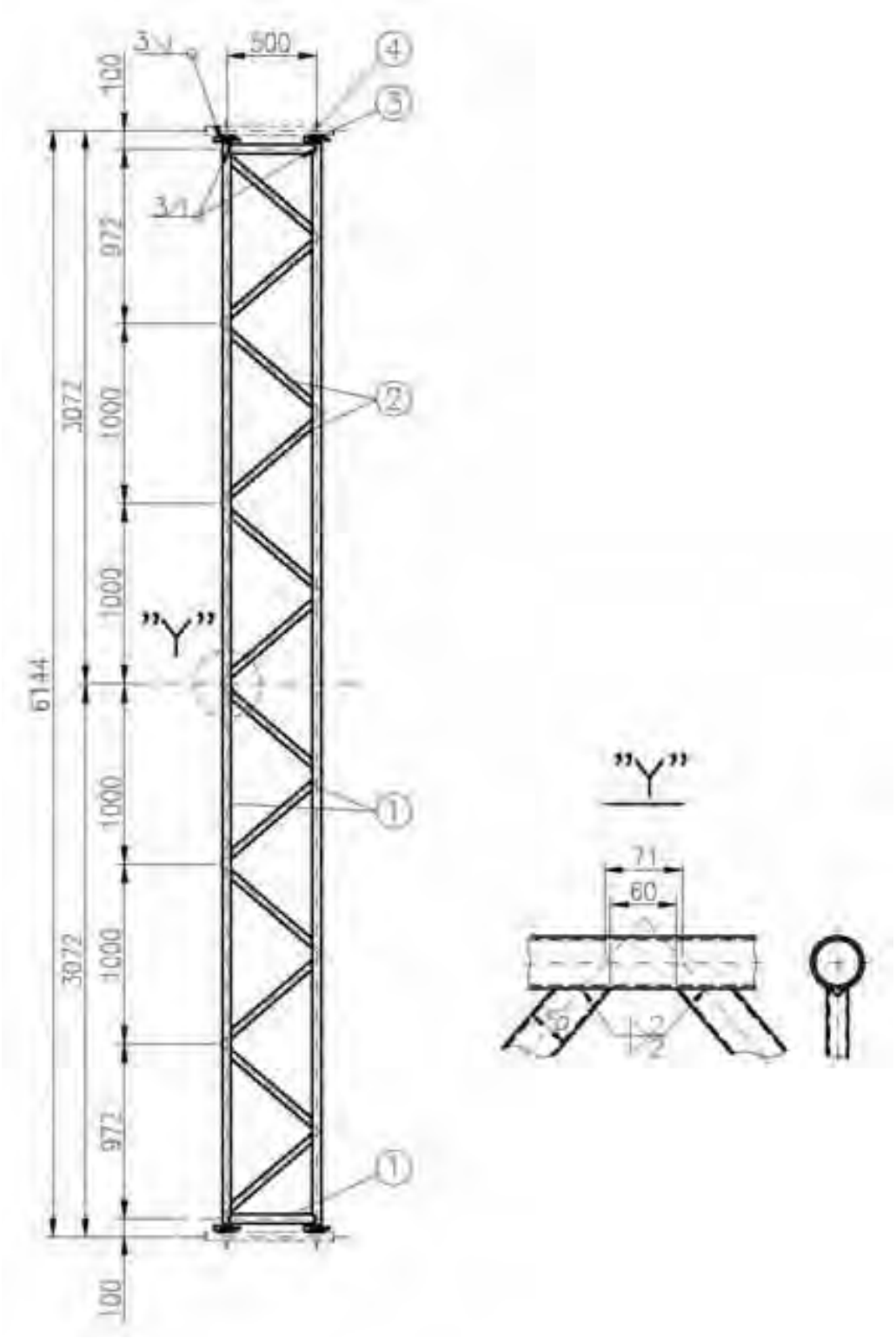
(1)	U 40x20x3	S235JR
(2)	Rd 12 (alternatively for ALFIX toeboard)	S235JR
(3)	Rd 10	S235JR
(4)	Straight grooved pin	DIN 1473-5x30-steel, galvanized
(5)	Marking	
(6)	Length L (mm)	

galvanized



X	Y
732	591
1088	947
1286	1145
1400	1259
1572	1431
2072	1931
2572	2431
3072	2931
4144	4003

(1)	Checker plate, quintet W5 2.5/3.3x190	DIN EN 1386	EN AW-5083 H224
(2)	Pipe clamp, galvanized		
(3)	Disc 5.3	DIN 125	
(4)	Blind rivet Ø5x12	DIN 7337	EN AW-5754 H112



(1)	R 48.3x3.2	S235JRH	ReH≥320N/mm²
(2)	RV 40x20x2	S235JRH	ReH≥320N/mm²
(3)	Tube ledger connection		
(4)	Wedge 6mm	S550MC	

galvanized

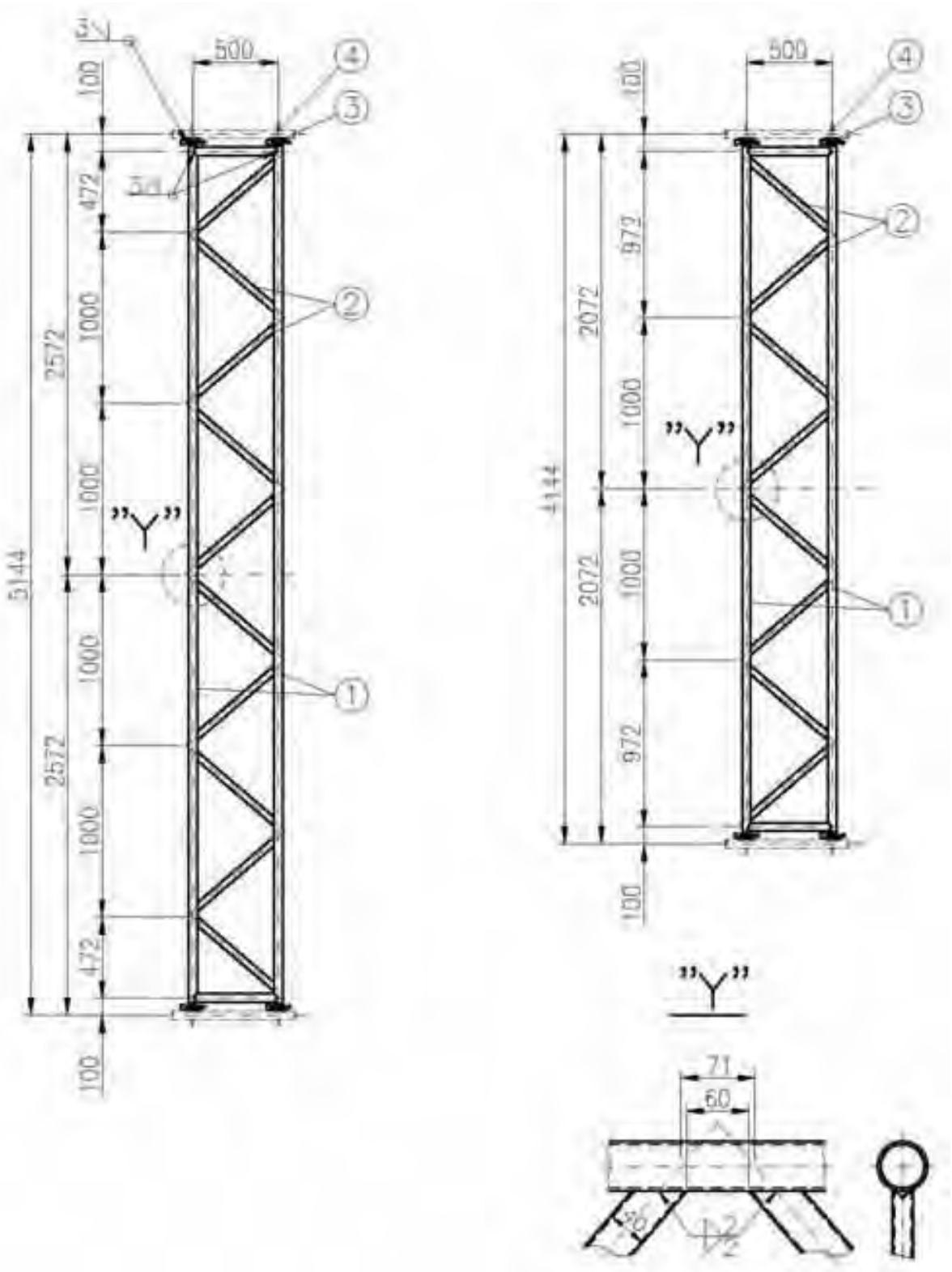
ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Modular lattice girder

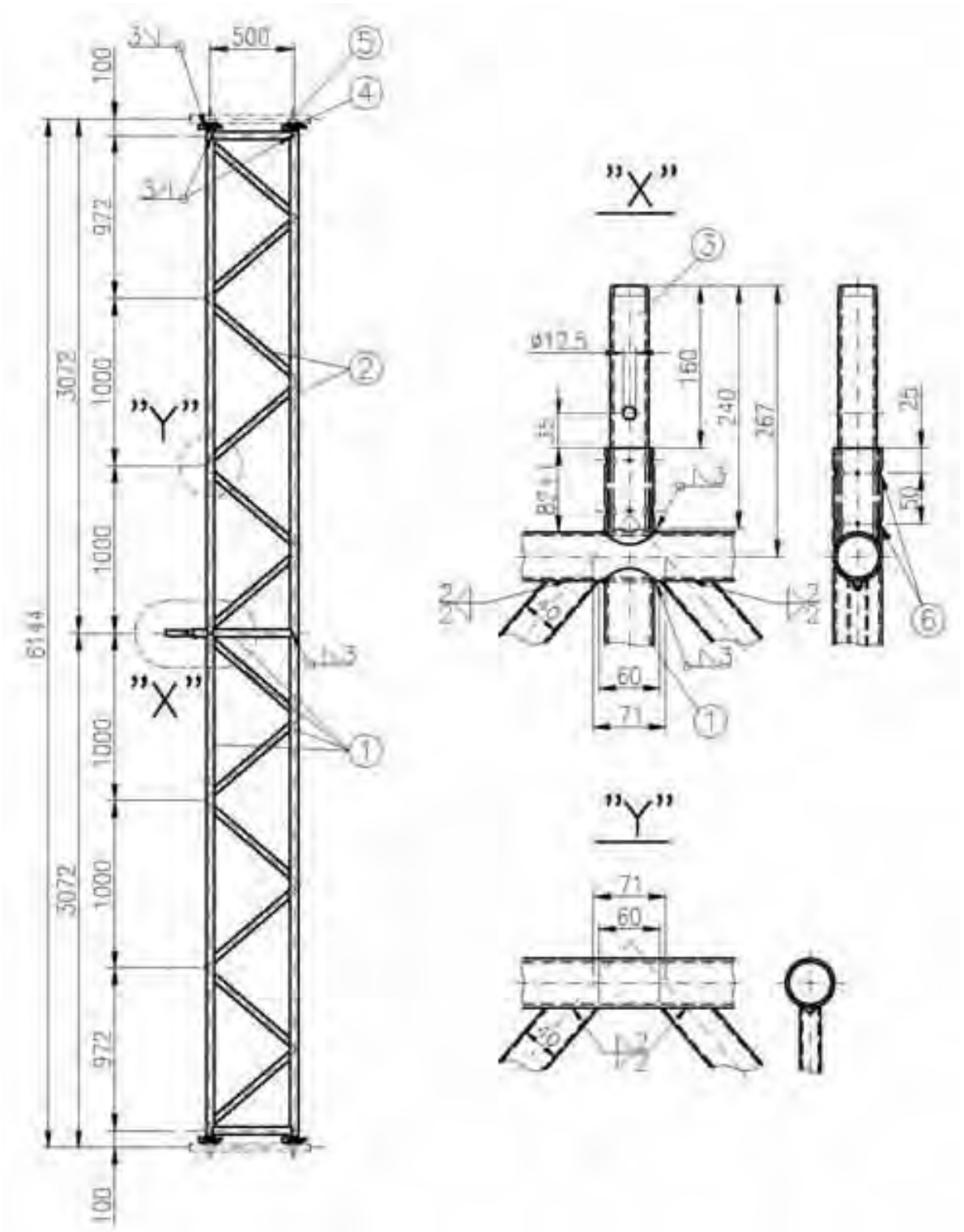
6.14m

according to Z-8.22-906



(1)	R 48.3x3.2	S235JRH	ReH≥320N/mm²
(2)	RV 40x20x2	S235JRH	ReH≥320N/mm²
(3)	Tube ledger connection		
(4)	Wedge 6mm	S550MC	

galvanized



(1)	R 48.3x3.2	S235JRH	ReH≥320N/mm²
(2)	RV 40x20x2	S235JRH	ReH≥320N/mm²
(3)	R 38x3.6	S235JRH	ReH≥320N/mm²
(4)	Tube ledger connection		
(5)	Wedge 6mm	S550MC	
(6)	4x point pressing		

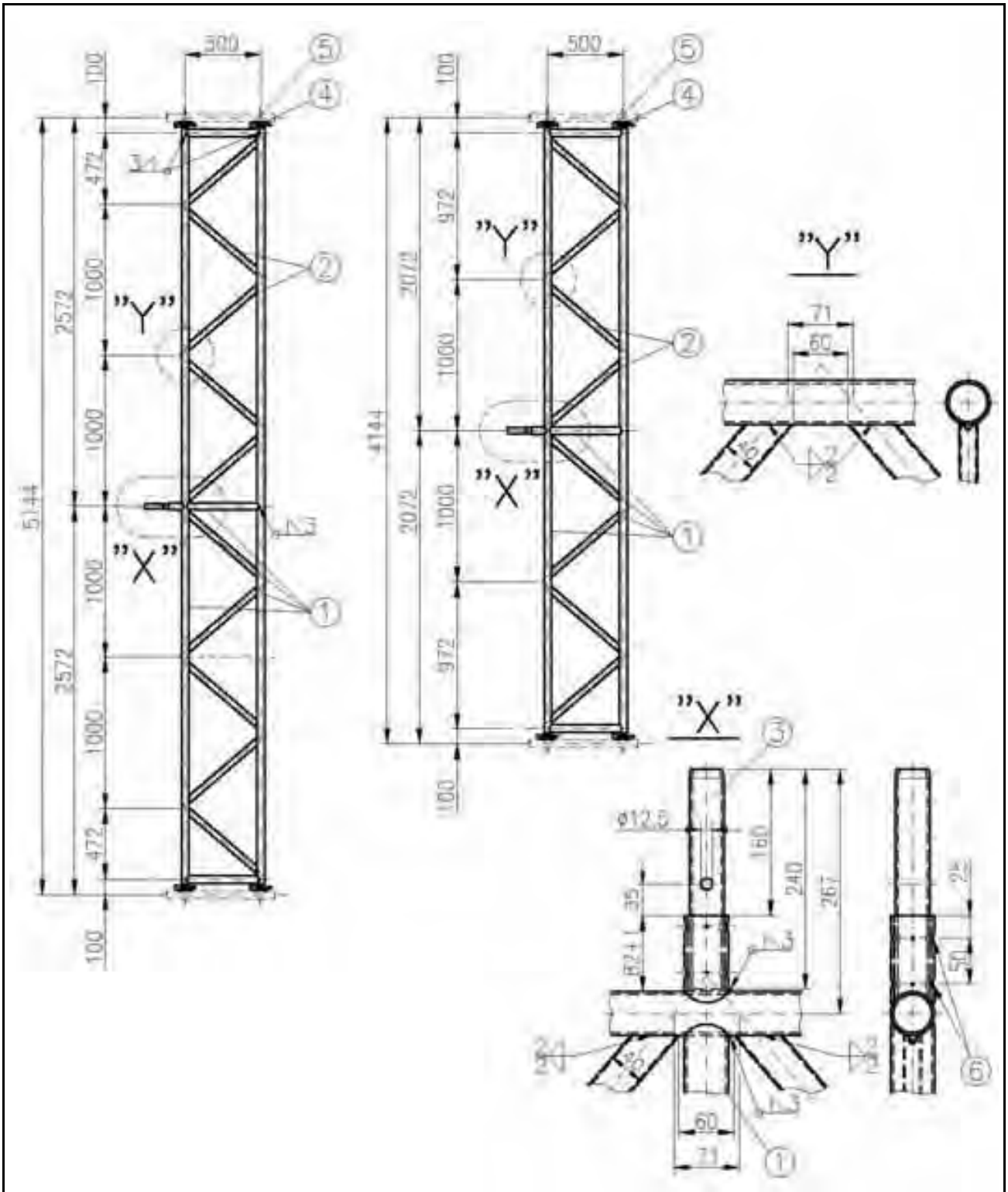
galvanized

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Modular lattice girder with spigot fitting 6.14m

according to Z-8.22-906



(1)	R 48.3x3.2	S235JRH	ReH≥320N/mm²
(2)	RV 40x20x2	S235JRH	ReH≥320N/mm²
(3)	R 38x3.6	S235JRH	ReH≥320N/mm²
(4)	Tube ledger connection		
(5)	Wedge 6mm	S550MC	
(6)	4x point pressing		

galvanized

ALFIX GmbH
63828 Edelbach
09603 Großschirma

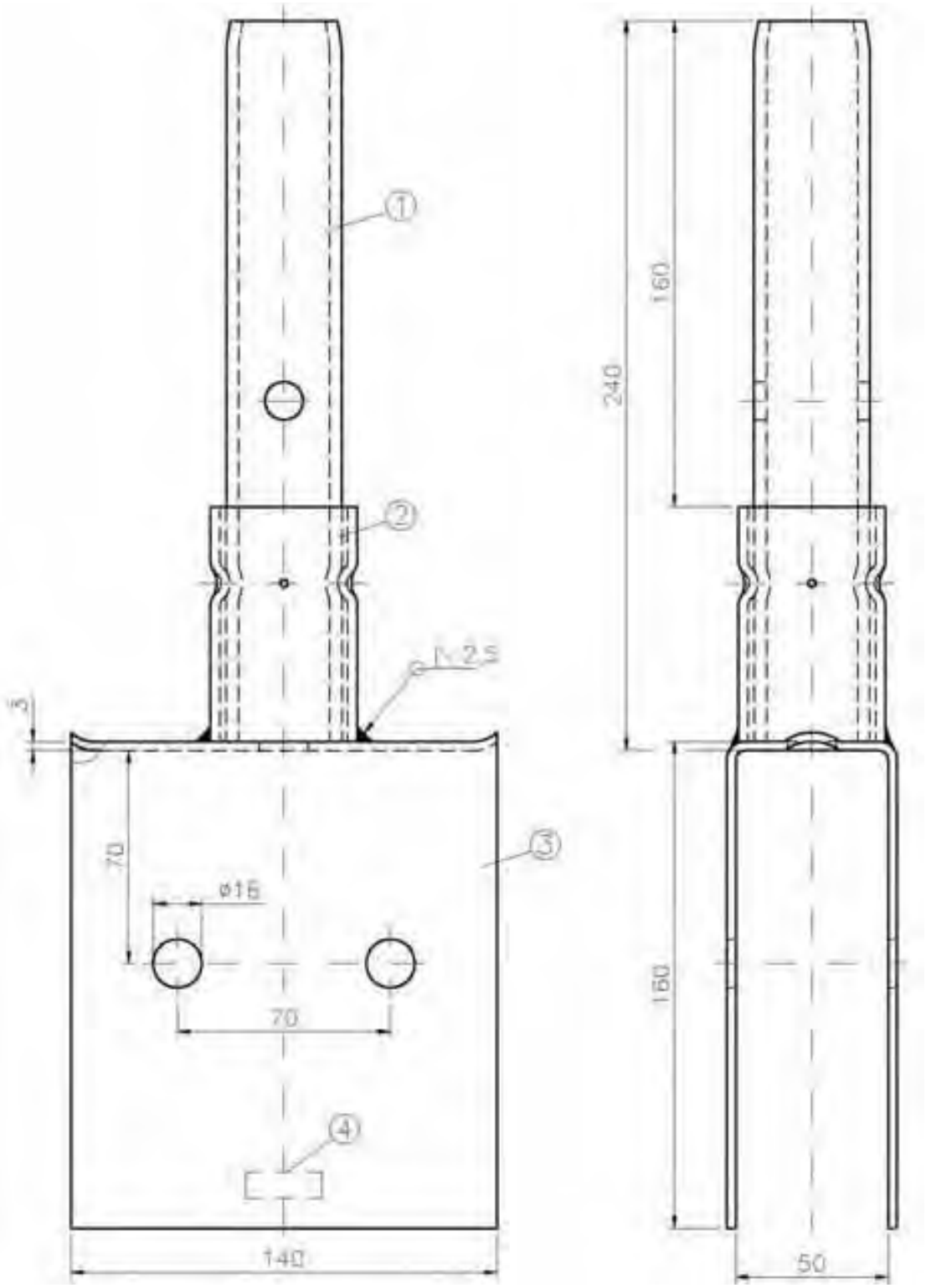
ALBLITZ MODUL

Modular lattice girder with spigot fitting 4.14m/ 5.14m

according to Z-8.22-906

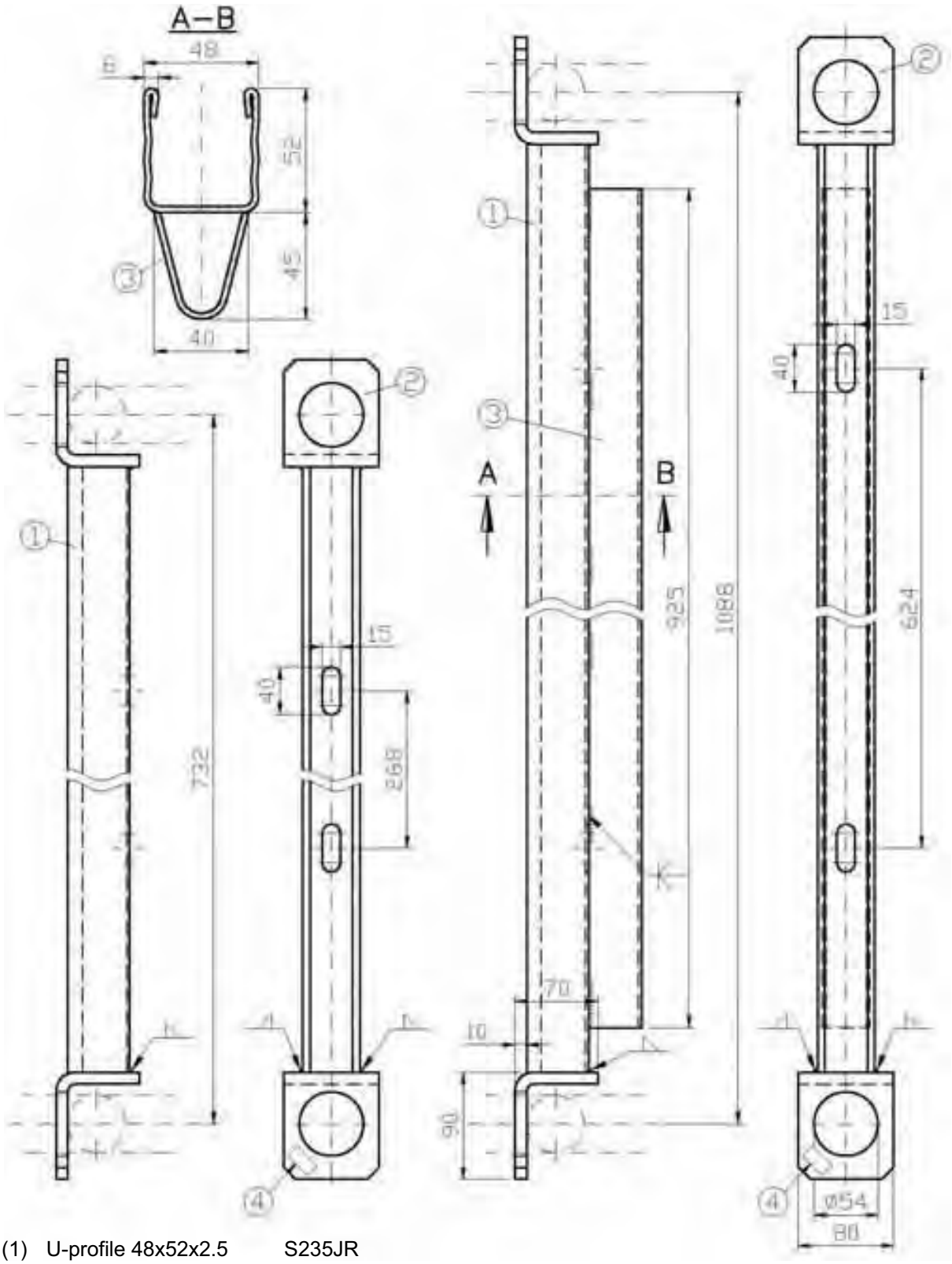
Annex B, page 38 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

M710-B136_ABM



(1)	R 38x3.6	S235JRH	ReH≥320N/mm²
(2)	R 48.3x3.2	S235JRH	ReH≥320N/mm²
(3)	BI 3	S235JRH	
(4)	Marking		

galvanized



(1) U-profile 48x52x2.5 S235JR
(2) Fl 80x10 S235JR
(3) Bl 3 S235JR
(4) Marking

galvanized; all welds a=3mm

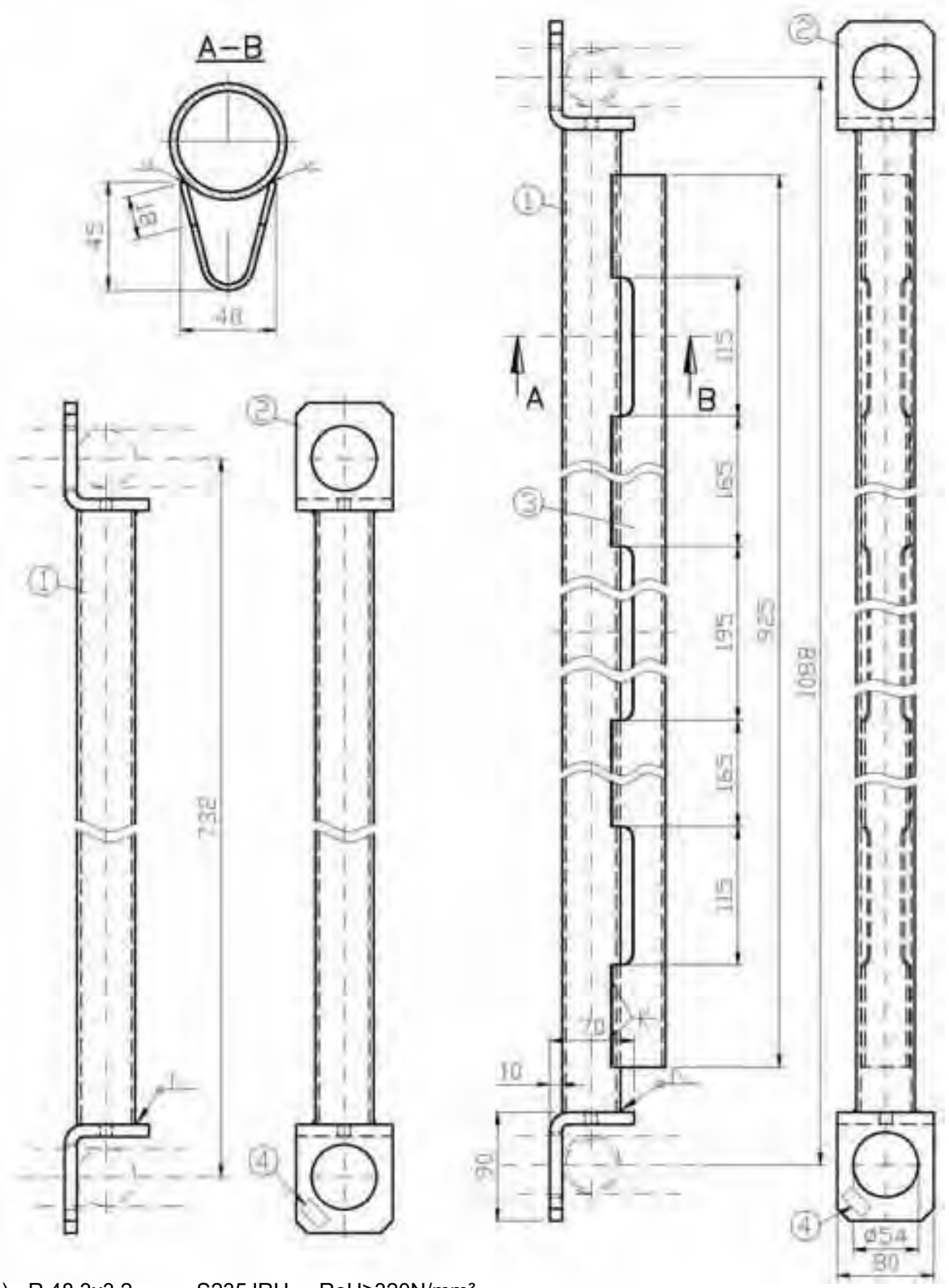
ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

U-transom GT 0.73m

U-transom GT 1.09m V

according to Z-8.22-906



(1)	R 48.3x3.2	S235JRH	ReH≥320N/mm²
(2)	Fl 80x10	S235JR	
(3)	Bl 3	S235JR	
(4)	Marking		

galvanized; all welds a=3mm

ALFIX GmbH
63828 Edelbach
09603 Großschirma

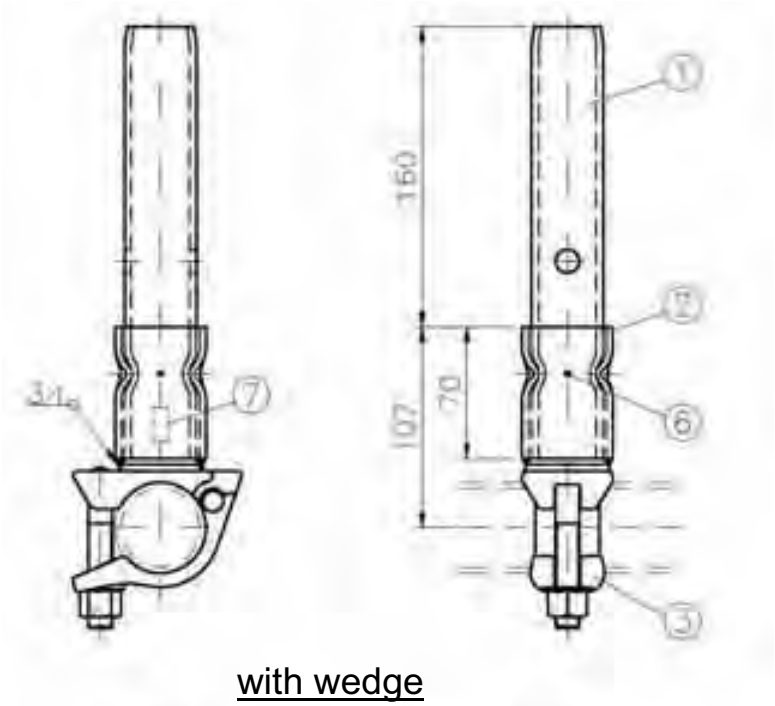
ALBLITZ MODUL

Tube transom GT 0.73m

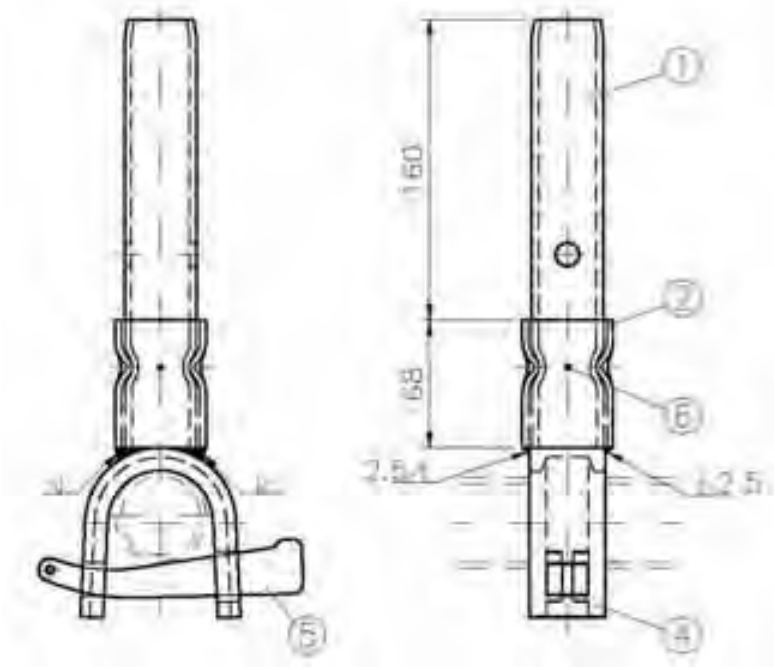
Tube transom GT 1.09m V

according to Z-8.22-906

with halfcoupler

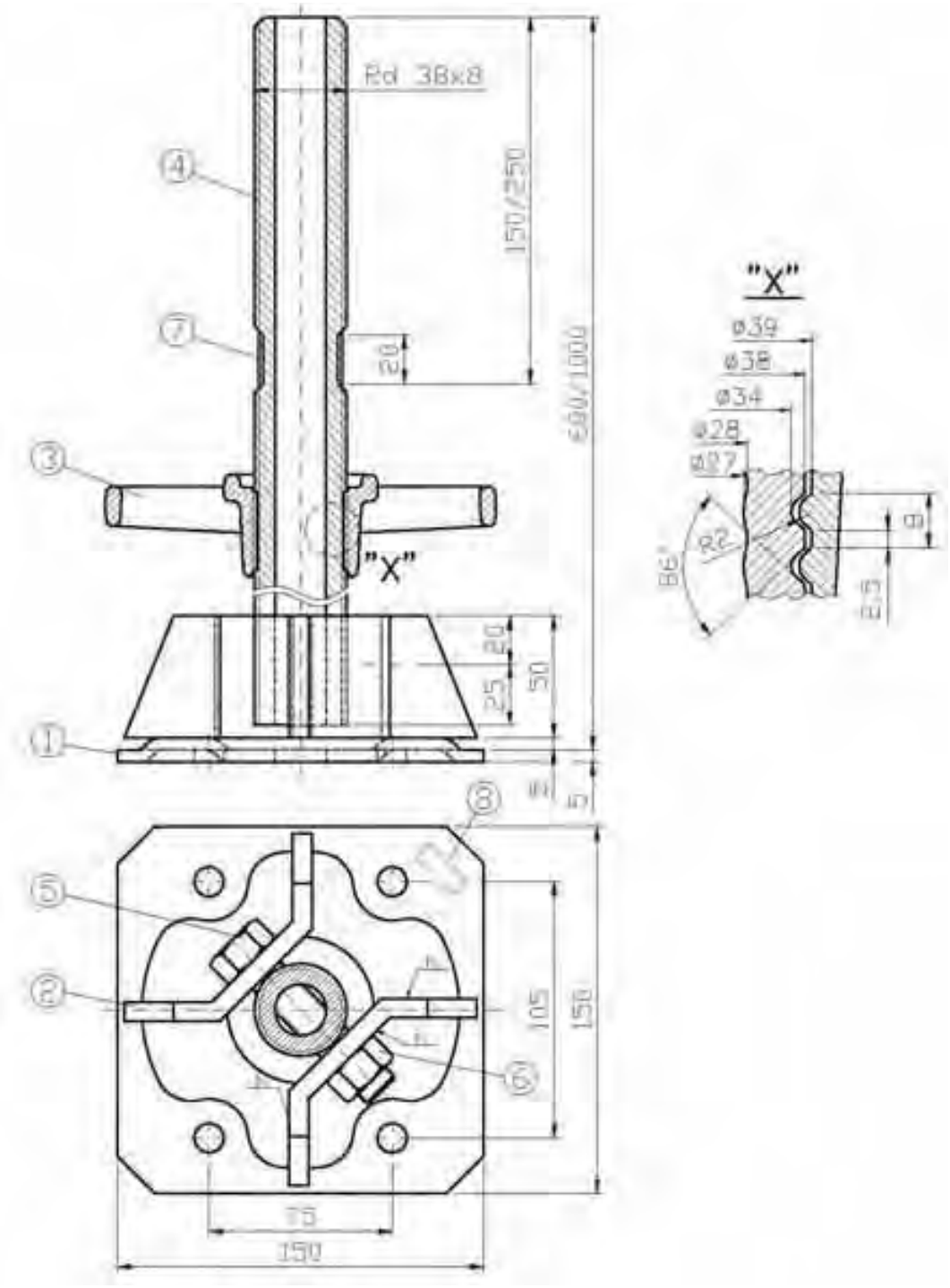


with wedge



(1)	R 38x3.6	S235JRH	ReH≥320N/mm²
(2)	R 48.3x3.2	S235JRH	ReH≥320N/mm²
(3)	Halfcoupler, class B		
(4)	Double bead profile 40x12x5x7	S235JR	
(5)	Wedge 6mm	S550MC	
(6)	4x point pressing	alternatively:	2x spot welding 12
(7)	Marking		

galvanized



(1)	Bl t=5mm	S235JR
(2)	Fl 50x8	S235JR
(3)	Adjusting nut, zinc-plated	G20Mn5 DIN EN 10293
(4)	Thread rolled on tube Ø38x4.5	S355J2H
(5)	Hex nut, self-locking	DIN 985-M16-8- galvanized
(6)	Hexagon screw	DIN 931-M16x75-8.8- galvanized
(7)	Thread damaged by two dents	
(8)	Marking	

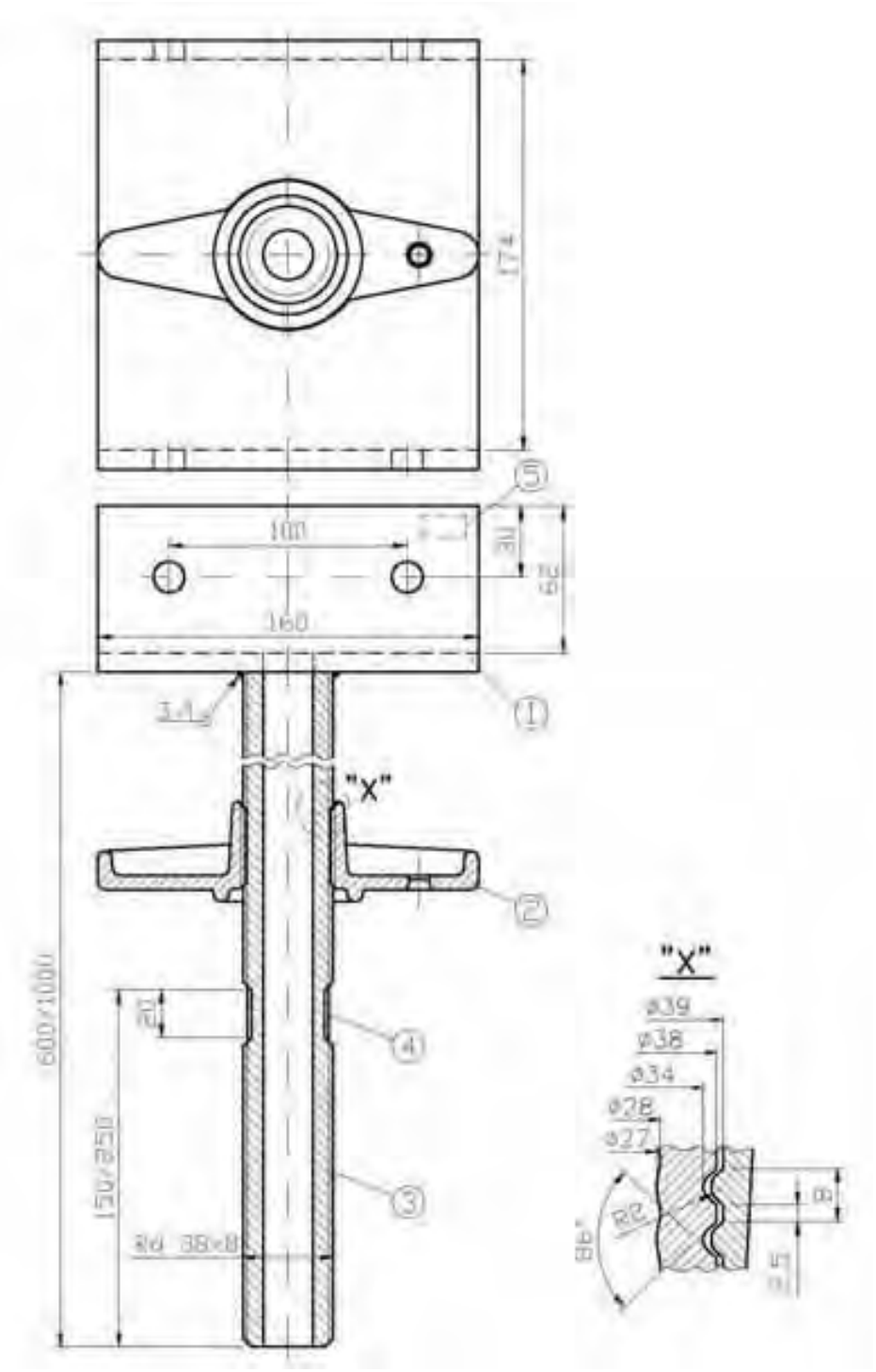
galvanized; all welds a=3mm

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Base jack, swivelling

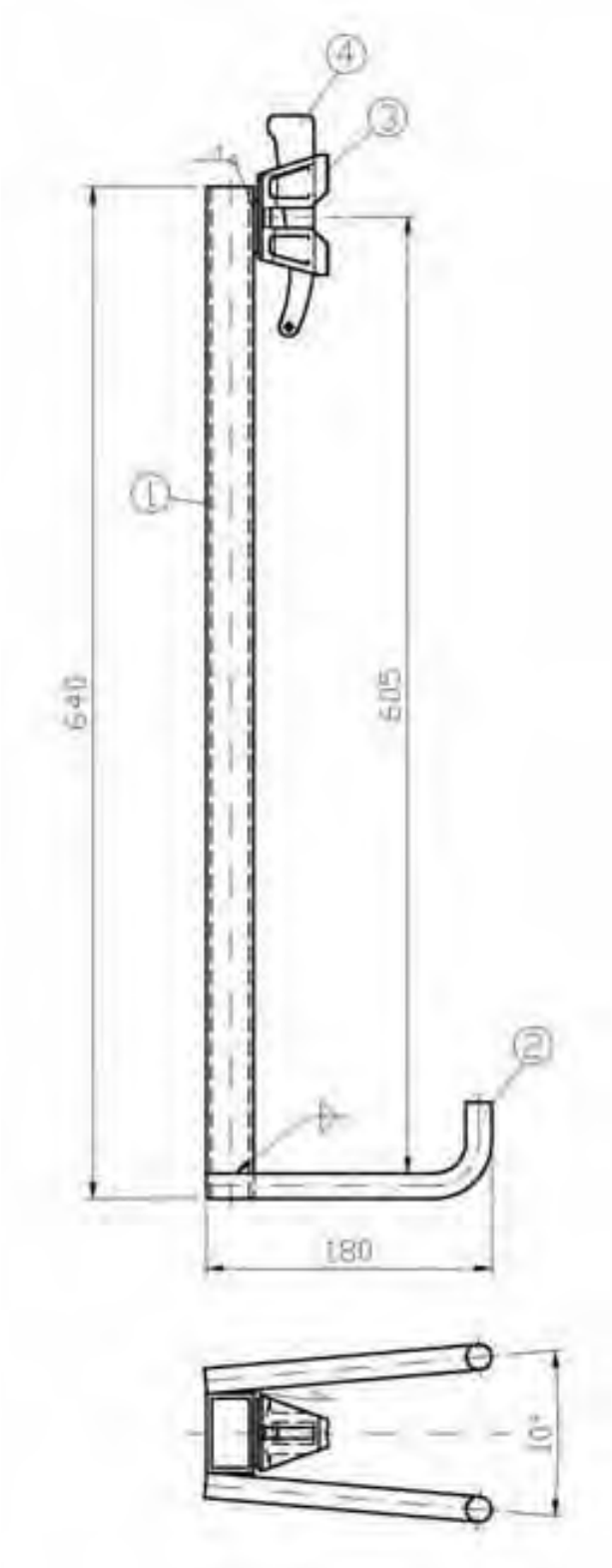
according Z-8.22-906



(1) Bl t=8mm S235JR
(2) Adjusting nut, zinc-plated G20Mn5 DIN EN 10293
(3) Thread rolled on tube ø38x4.5 S355J2H
(4) Thread damaged by two dents
(5) Marking

galvanized

ALFIX GmbH 63828 Edelbach 09603 Großschirma	**ALBLITZ MODUL** **Head spindle U** according to Z-8.22-906	Annex B, page 44 to the national technical approval Z-8.22-913 of 7. May 2012 Deutsches Institut für Bautechnik M710-B142_ABM



(1) RV 50x30x3 S235JRH
(2) Rd 16 S235JR
(3) U-ledger connection
(4) Wedge 6mm S550MC

galvanized; all welds a=3mm

ALFIX GmbH
63828 Edelbach
09603 Großschirma

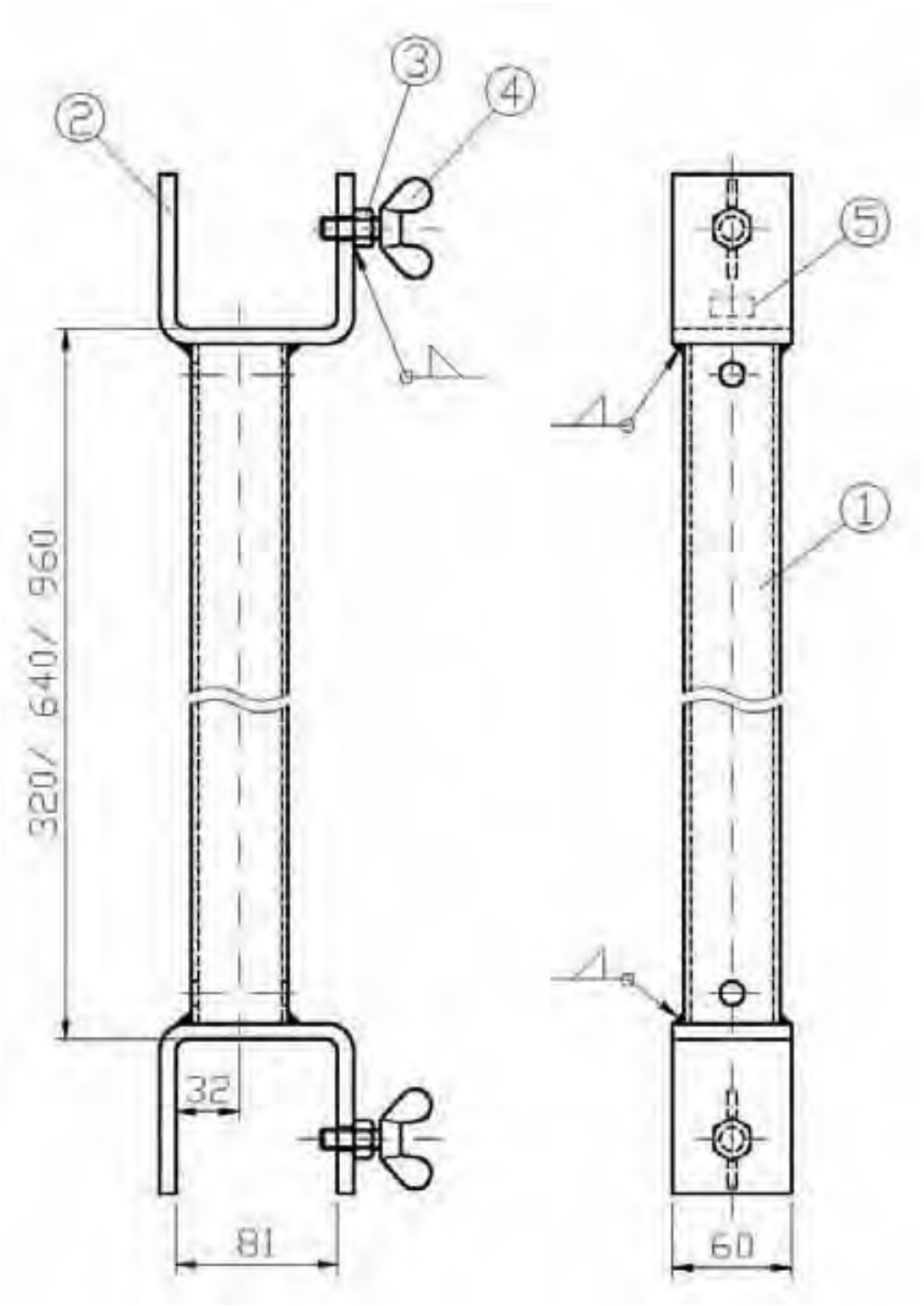
ALBLITZ MODUL

Locking device for base jack

according to Z-8.22-906

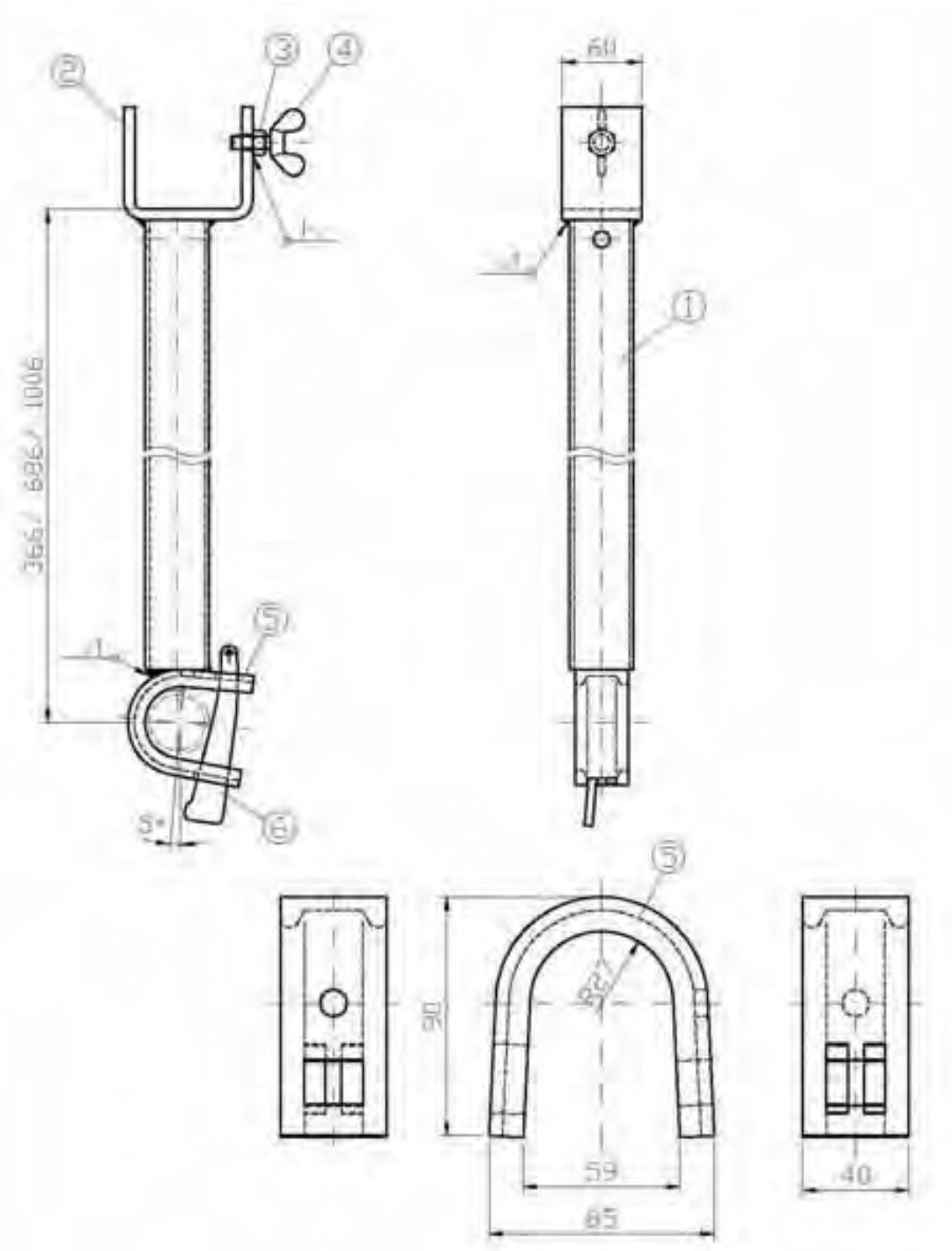
Annex B, page 45 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

M710-B143_ABM



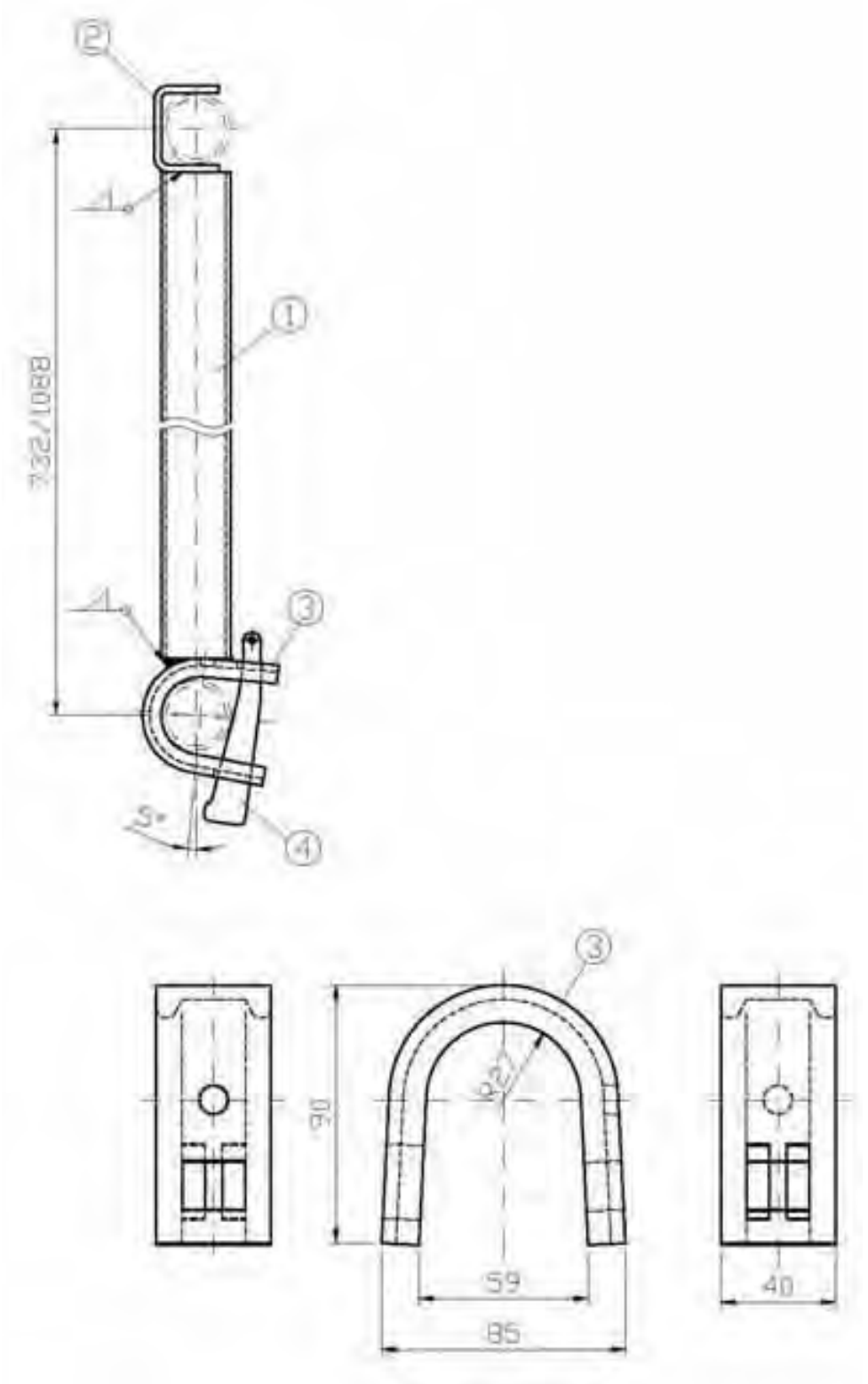
(1)	R 48.3x3.2	S235JRH ReH≥320N/mm^2
(2)	Bl t=8mm	S355MC
(3)	Hexagon weld nut	DIN 929 – M10-steel
(4)	Wing screw	DIN 316 – M10x30-steel, galvanized
(5)	Marking	

galvanized; all welds a=3mm



(1)	R 48.3x3.2	S235JRH	ReH≥320N/mm^2
(2)	Bl t=8mm	S355MC	
(3)	Hexagon weld nut	DIN 929 - M10-steel	
(4)	Wing screw	DIN 316 - M10x30-steel, galvanized	
(5)	Double bead profile 40x13x5x6.5	S235JR	
(6)	Wedge 6mm	S550MC	

galvanized; all welds a=3mm



(1)	R 48.3x3.2	S235JRH	ReH≥320N/mm^2
(2)	Bd 50x5	S235JR	
(3)	Double bead profile 40x13x5x6.5	S235JR	
(4)	Wedge 6mm	S550MC	

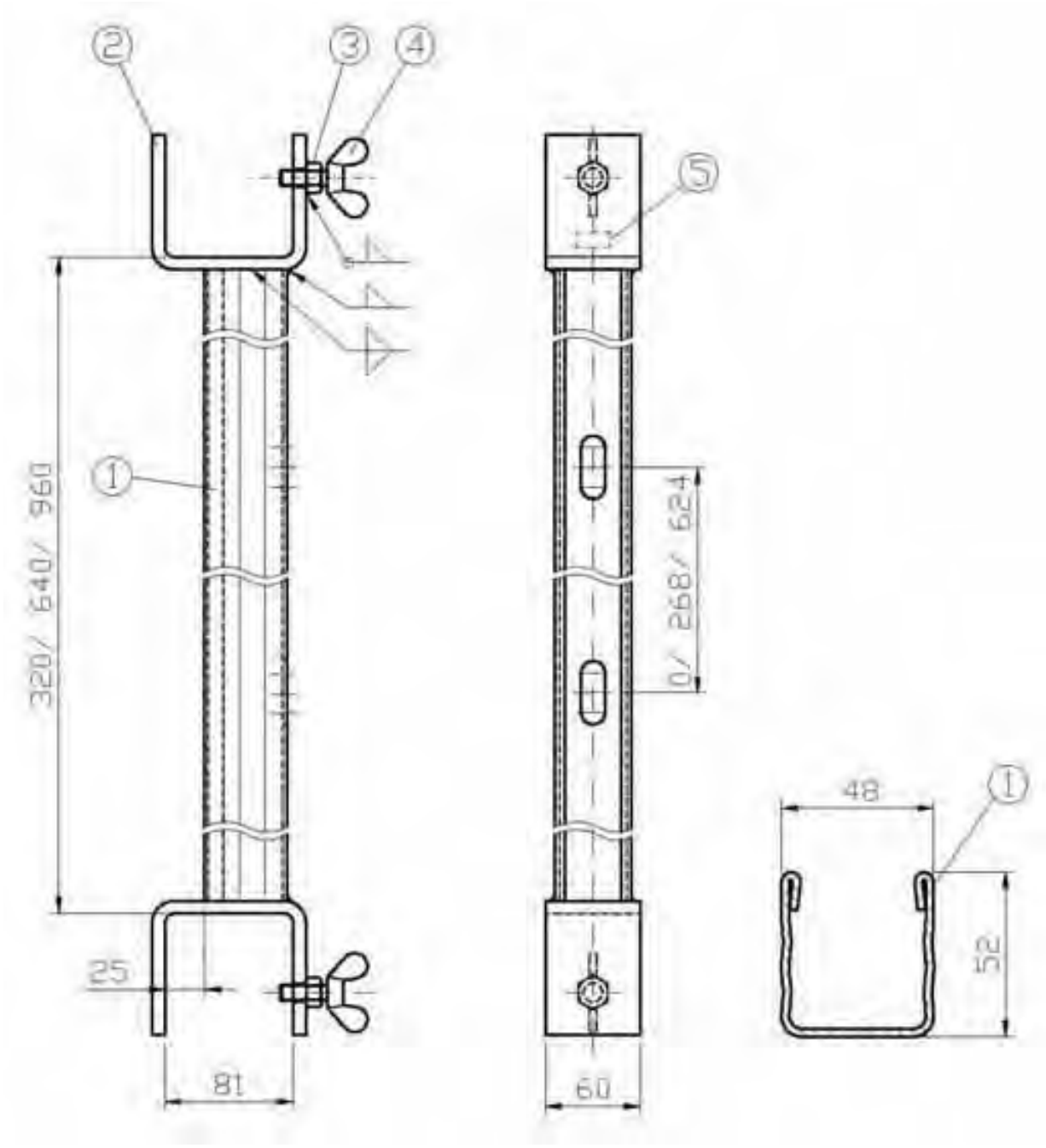
galvanized; all welds a=3mm

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Decking and planking ledger RE

according to Z-8.22-906



(1) U-profile 48x52x2.5 S235JR
(2) Bl t=8mm S235JR
(3) Hexagon weld nut DIN 929 – M10-steel
(4) Wing screw DIN 316 - M10x30-steel, galvanized
(5) Marking

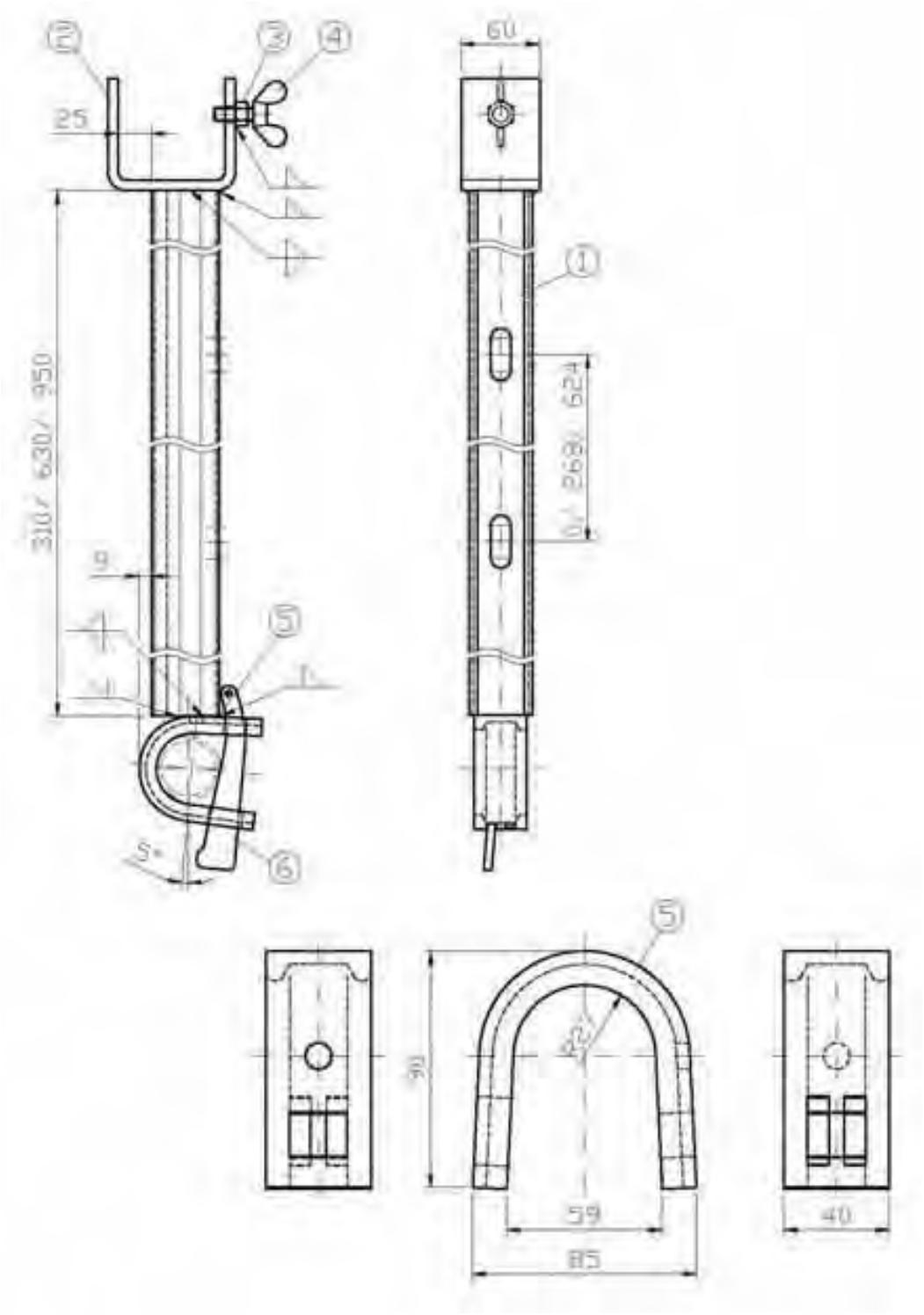
galvanized; all welds a=3mm

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

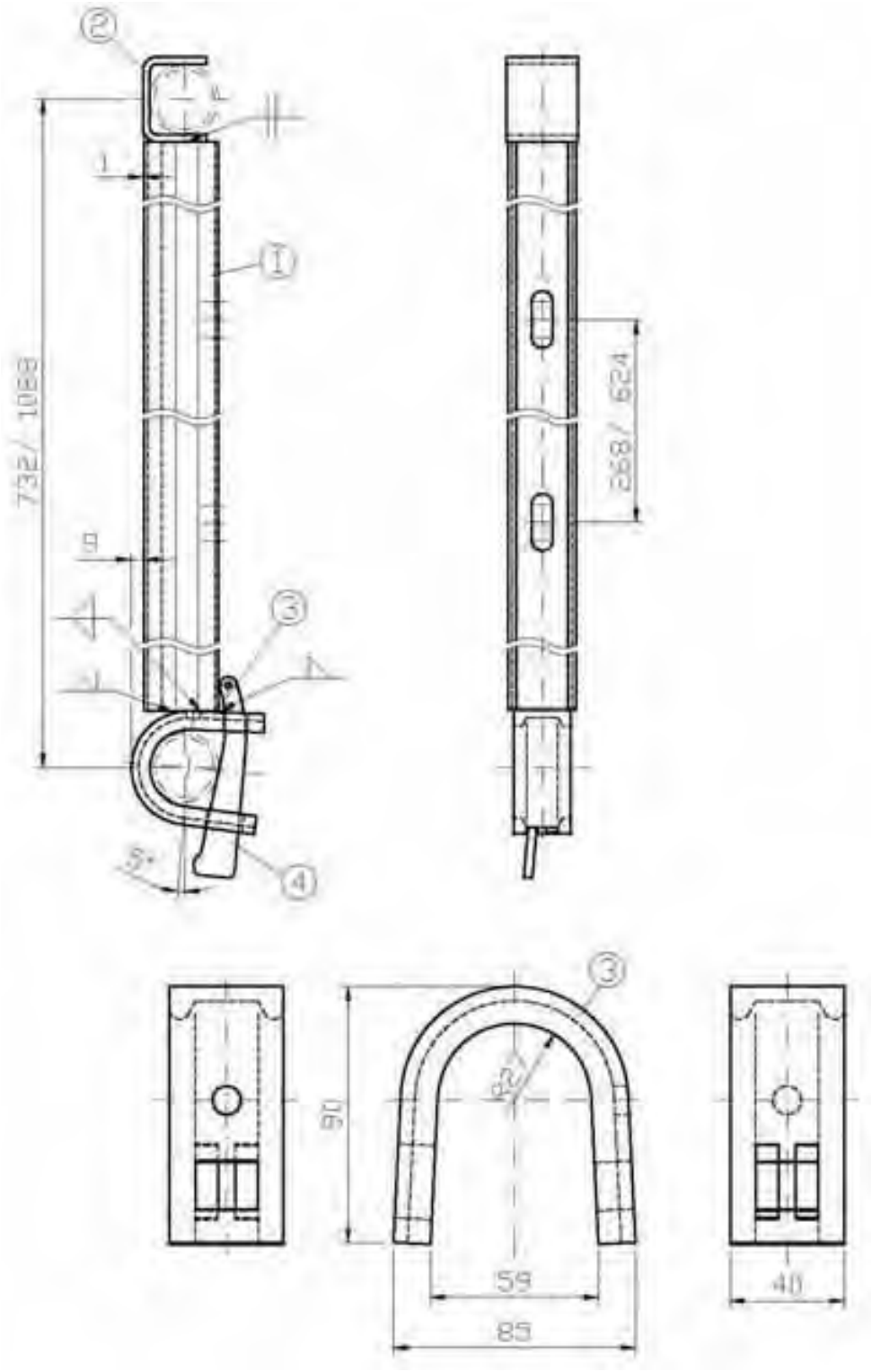
Intermediate deck ledger –M

according to Z-8.22-906



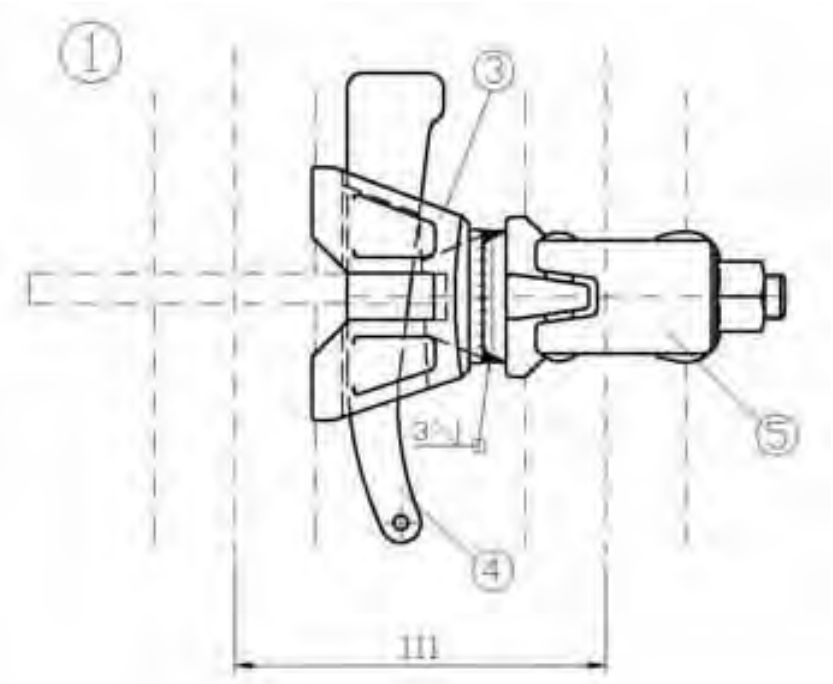
(1)	U-profile 48x52x2.5	S235JR
(2)	Bl t=8mm	S235JR
(3)	Hexagon weld nut	DIN 929 – M10-steel
(4)	Wing screw	DIN 316 – M10x39-steel, galvanized
(5)	Double bead profile 40x13x5x6.5	S235JR
(6)	Wedge 6mm	S550MC

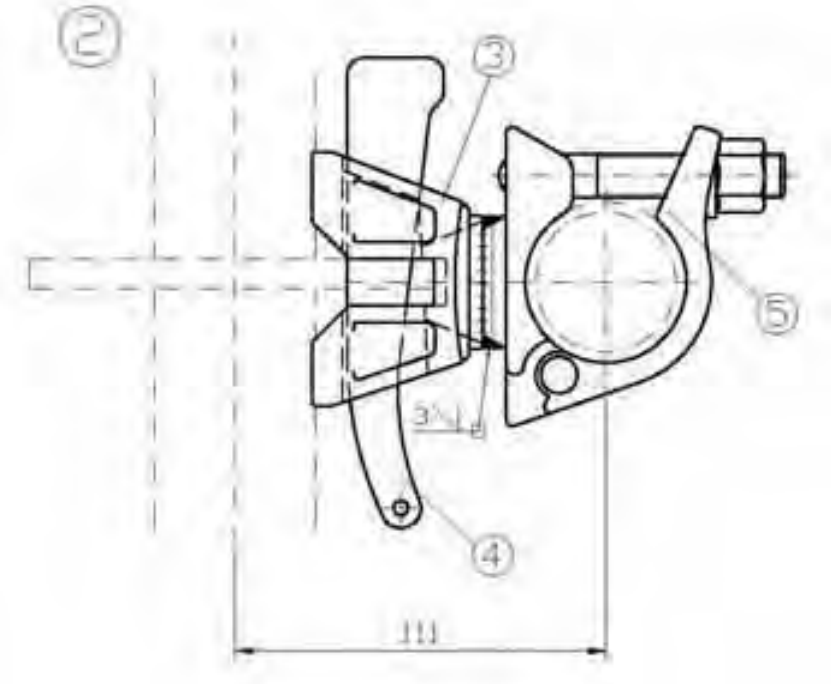
galvanized; all welds a=3mm



(1)	U-profile 48x52x2.5	S235JR
(2)	Bd 50x5	S235JR
(3)	Double bead profile 40x13x5x6.5	S235JR
(4)	Wedge 6mm	S550MC

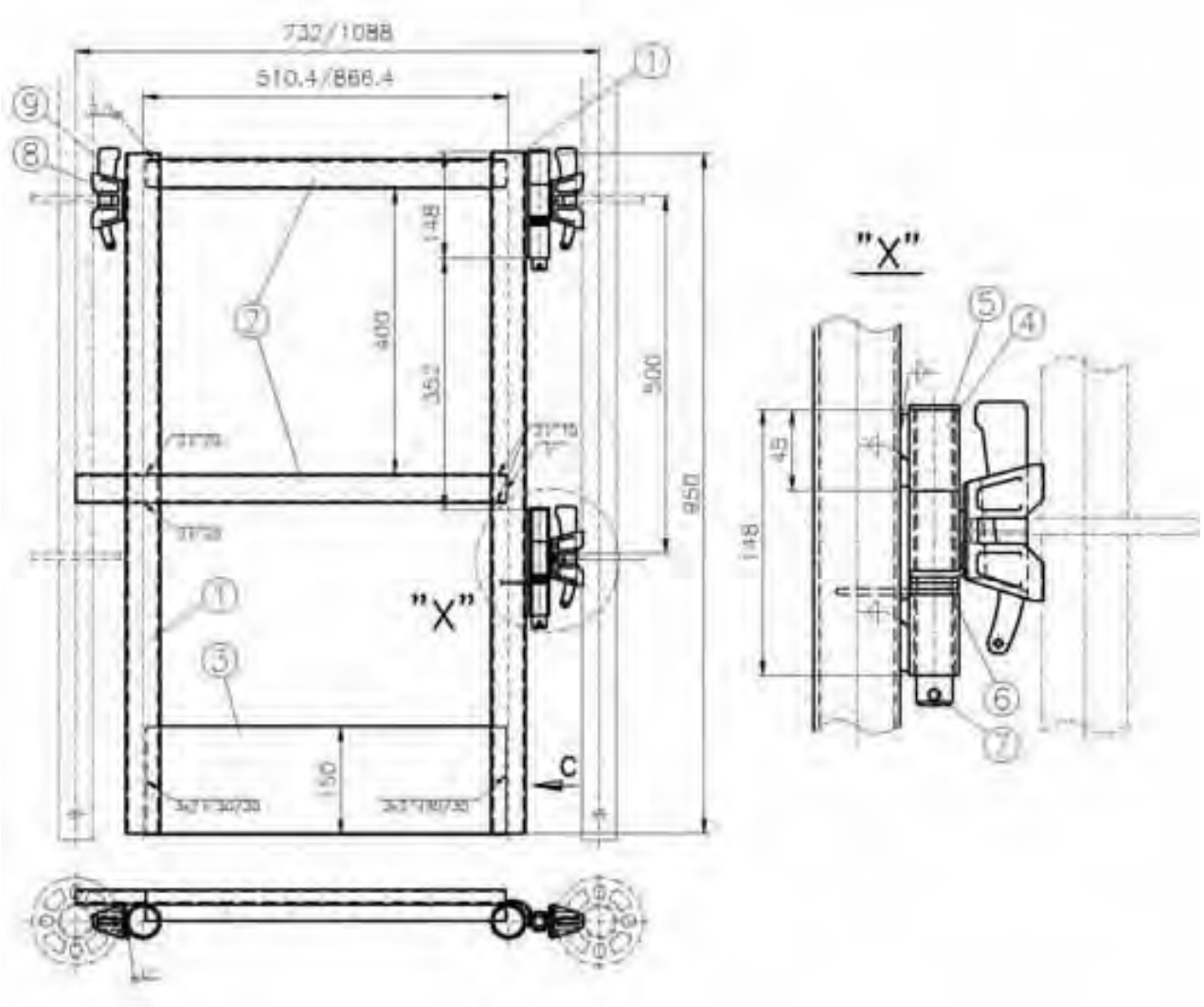
galvanized; all welds a=3mm





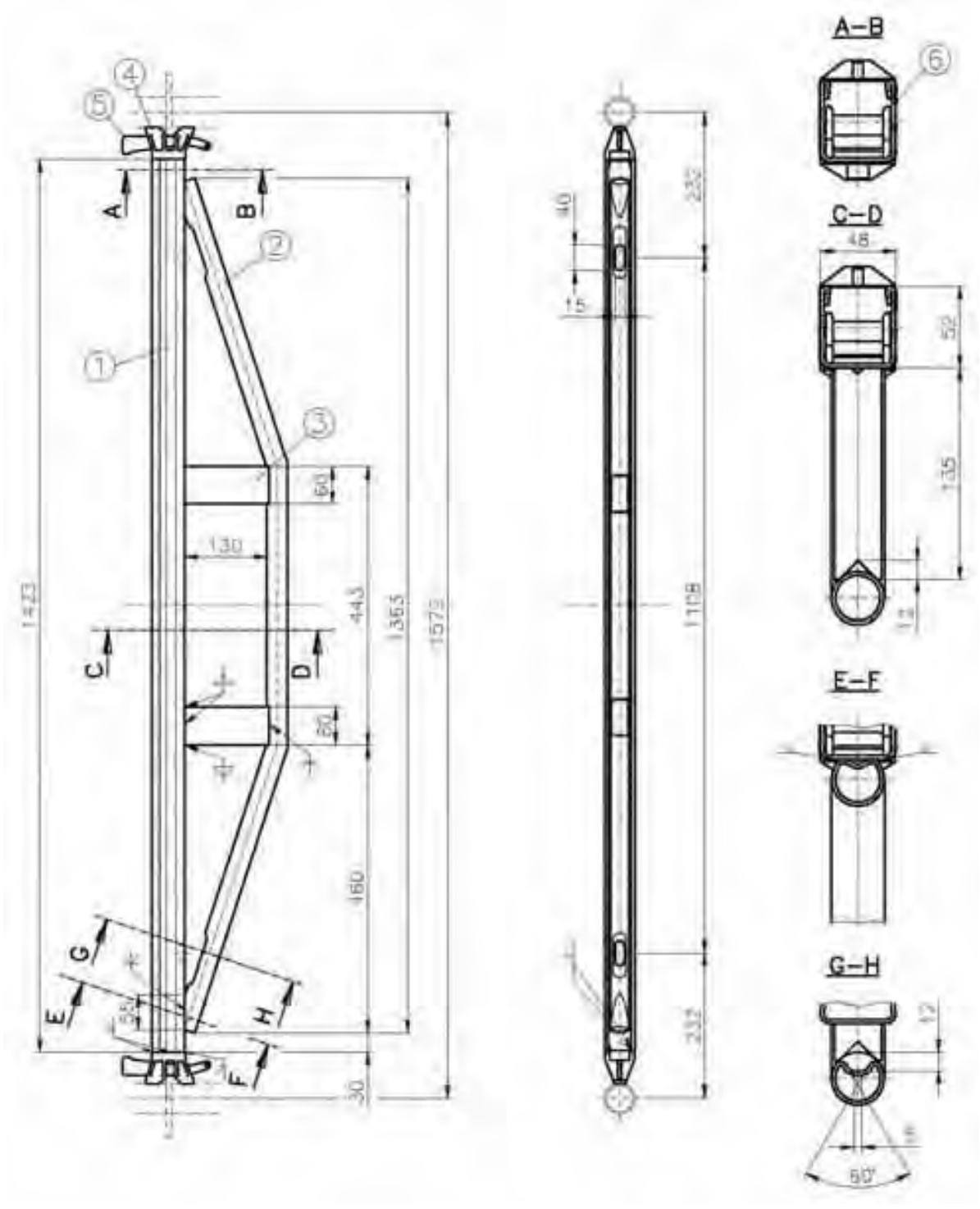
(1) Wedge head coupler, fixed parallel
(2) Wedge head coupler, fixed rectangular
(3) Tube ledger connection
(4) Wedge 6mm S550MC
(5) Halfcoupler, class B

galvanized



(1)	R 48.3x2.7	S235JRH	ReH≥320N/mmm^2
(2)	RV 40x20x2	S235JRH	
(3)	Bl 1.5	S235JR	
(4)	R 28x2.5	S235JRH	DIN 2394
(5)	Hinge pin		
(6)	Spring		
(7)	Cotter pin	DIN 94 – 4x40-steel, galvanized	
(8)	U-ledger connection		
(9)	Wedge 6mm	S550MC	

galvanized



(1)	U-profile 48x52x2.5	S235JR	
(2)	R 33.7x2.6	S235JRH	ReH≥320N/mm^2
(3)	RV 60x30x2	S235JR	
(4)	U-ledger connection		
(5)	Wedge 6mm	S550MC	
(6)	Welded area		

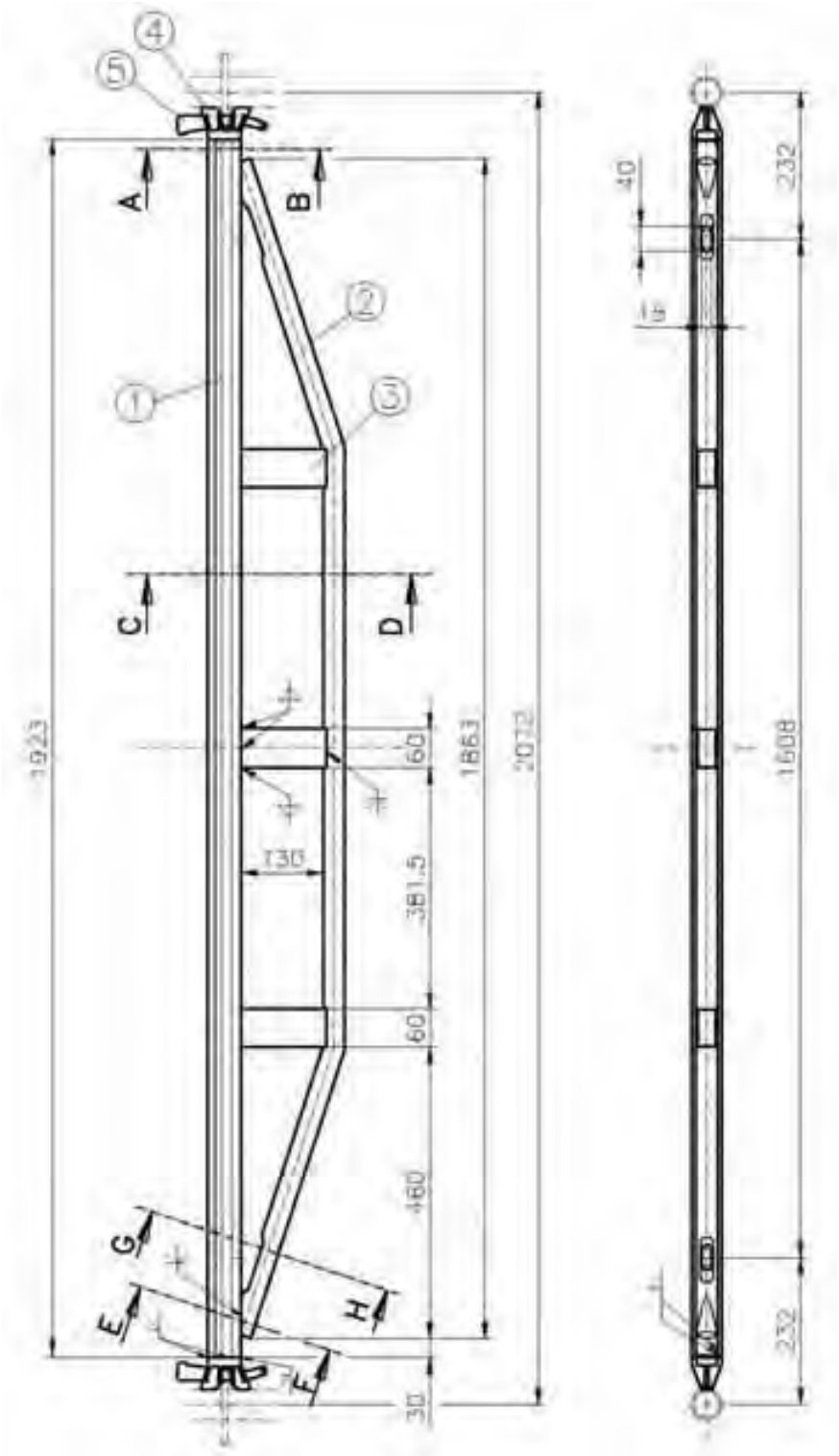
galvanized; all fillet welds a=2.5mm; all single-V butts a=3mm

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

U-bridging ledger 1.57m

according to Z-8.22-906



(1)	U-profile 48x52x2.5	S235JR	
(2)	R 33.7x2.6	S235JRH	ReH≥320N/mm^2
(3)	RV 60x30x2	S235JR	
(4)	U-ledger connection		
(5)	Wedge 6mm	S550MC	

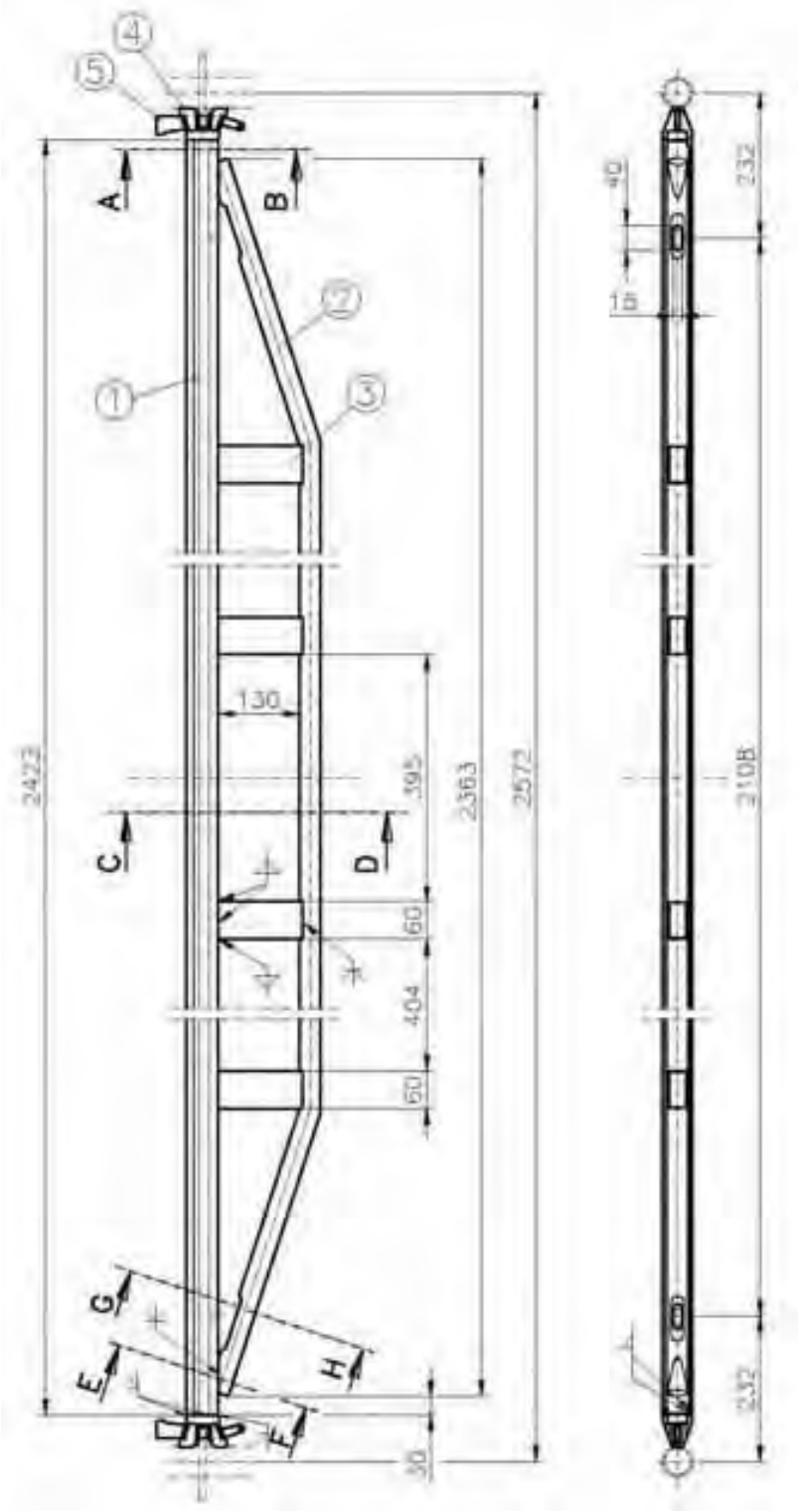
galvanized; all fillet welds a=2.5mm; all single-V butts

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

U-bridging ledger 2.07m

according to Z-8.22-906



(1)	U-profile 48x52x2.5	S235JR	
(2)	R 33.7x2.6	S235JRH	ReH≥320N/mm^2
(3)	RV 60x30x2	S235JR	
(4)	U-ledger connection		
(5)	Wedge 6mm	S550MC	

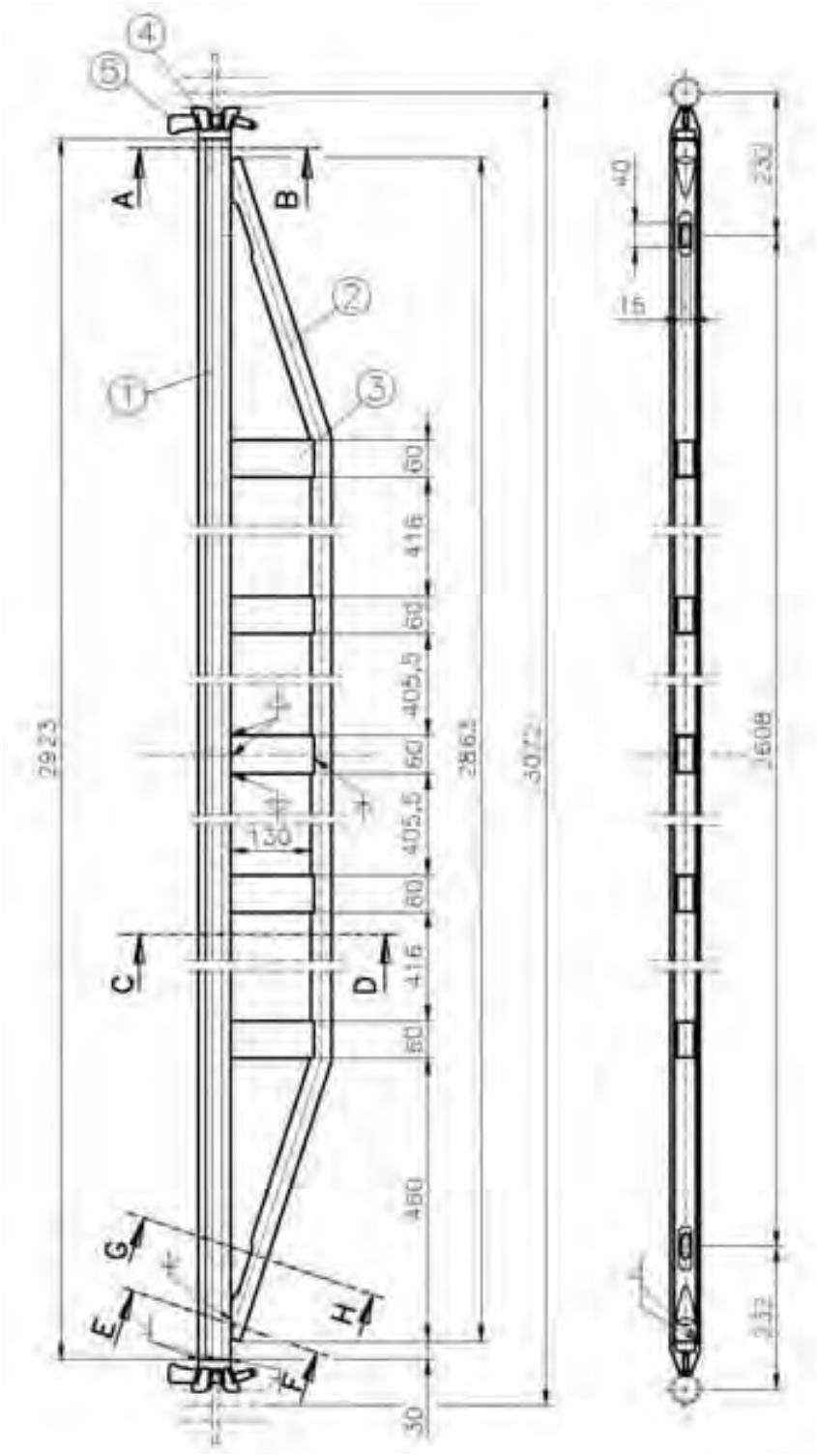
galvanized; all fillet welds a=2.5mm; all single-V butts a=3mm

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

U-bridging ledger 2.57m

according to Z-8.22-906



(1)	U-profile 48x52x2.5	S235JR	
(2)	R 33.7x2.6	S235JRH	ReH≥320N/mm^2
(3)	RV 60x30x2	S235JR	
(4)	U-ledger connection		
(5)	Wedge 6mm	S550MC	

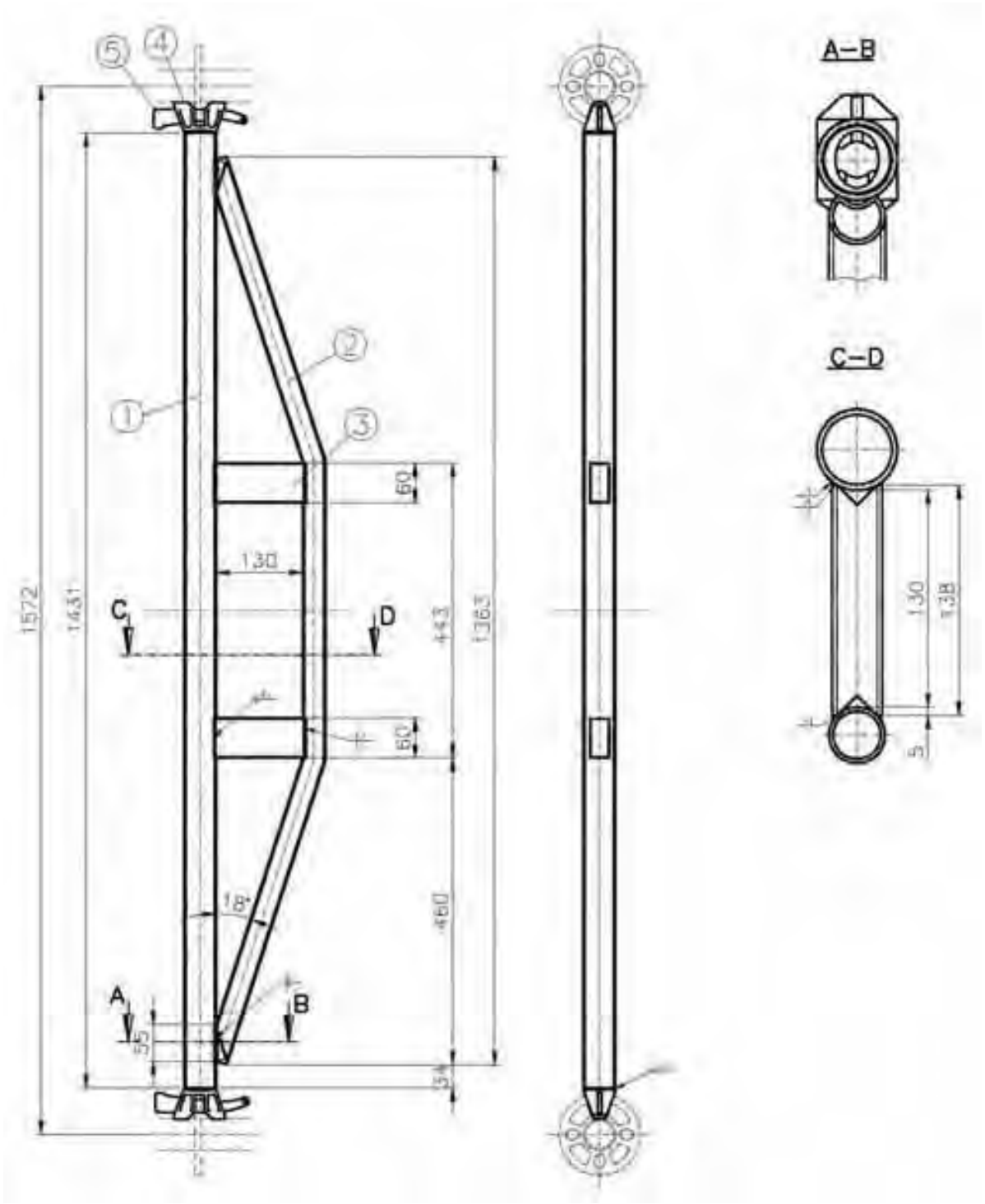
galvanized; all fillet welds a=2.5mm; all single-V butts a=3mm

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

U-bridging ledger 3.07m

according to Z-8.22-906



(1)	R 48.3x3.2	S235JRH	ReH≥320N/mm^2
(2)	R 33.7x2.6	S235JRH	ReH≥320N/mm^2
(3)	RV 60x30x2	S235JR	
(4)	Tube ledger connection		
(5)	Wedge 6mm	S550MC	

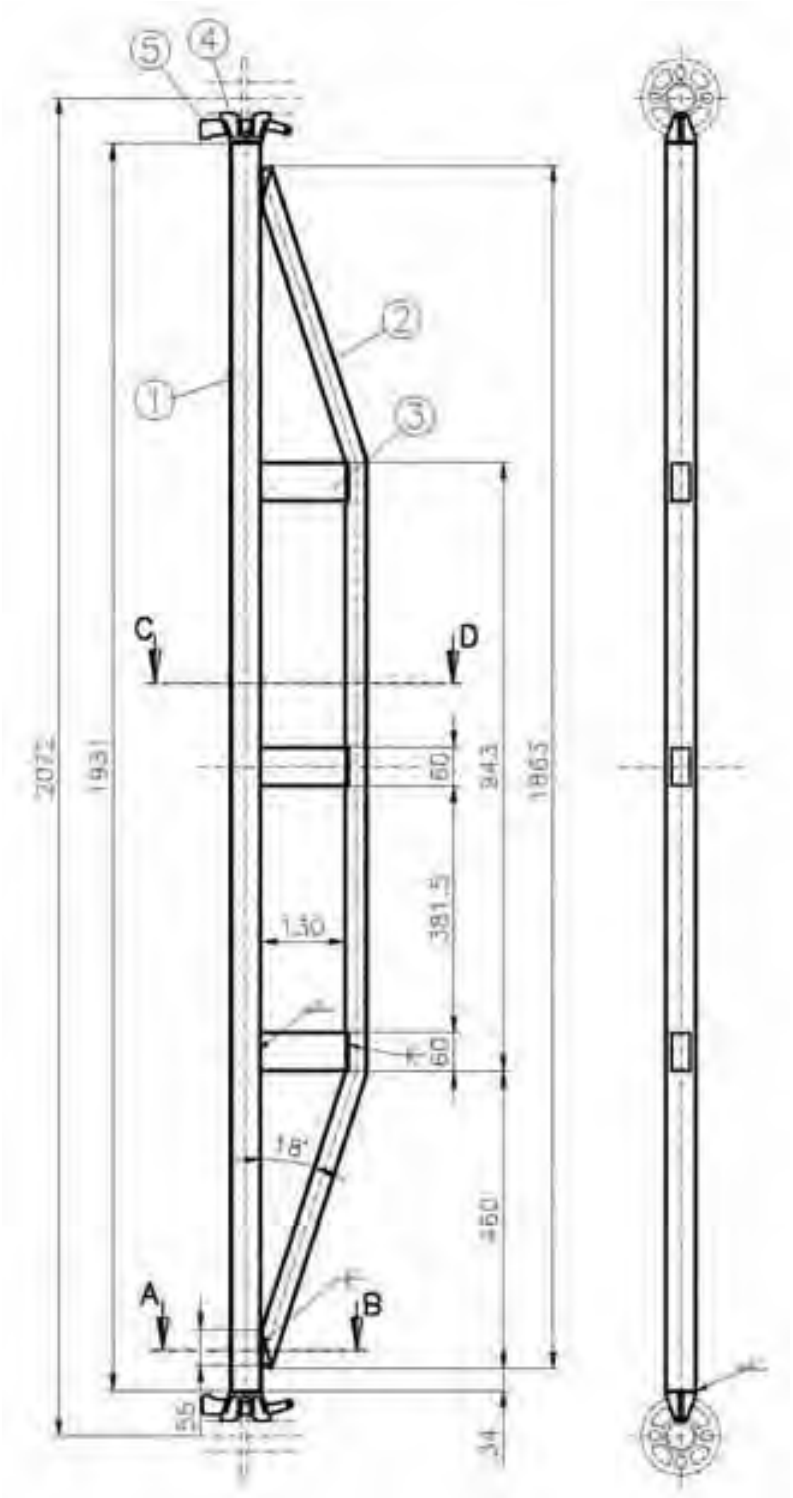
galvanized; all welds a=3mm

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Double tube ledger 1.57m

according to Z-8.22-906



(1)	R 48.3x3.2	S235JRH	ReH≥320N/mm^2
(2)	R 33.7x2.6	S235JRH	ReH≥320N/mm^2
(3)	RV 60x30x2	S235JR	
(4)	Tube ledger connection		
(5)	Wedge 6mm	S550MC	

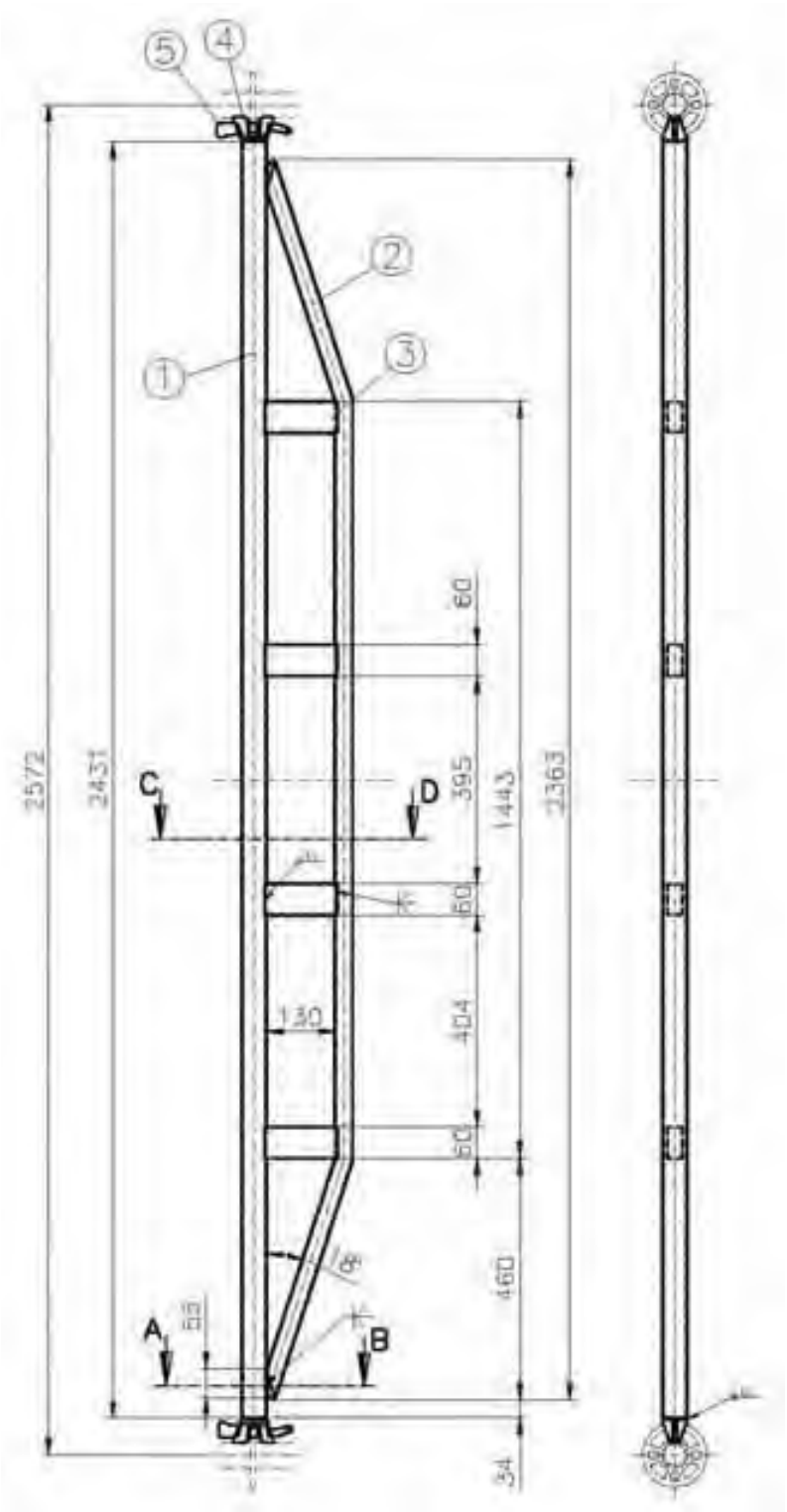
galvanized; all welds a=3mm

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Double tube ledger 2.07m

according to Z-8.22-906



(1)	R 48.3x3.2	S235JRH	ReH≥320N/mm^2
(2)	R 33.7x2.6	S235JRH	ReH≥320N/mm^2
(3)	RV 60x30x2	S235JR	
(4)	Tube ledger connection		
(5)	Wedge 6mm	S550MC	

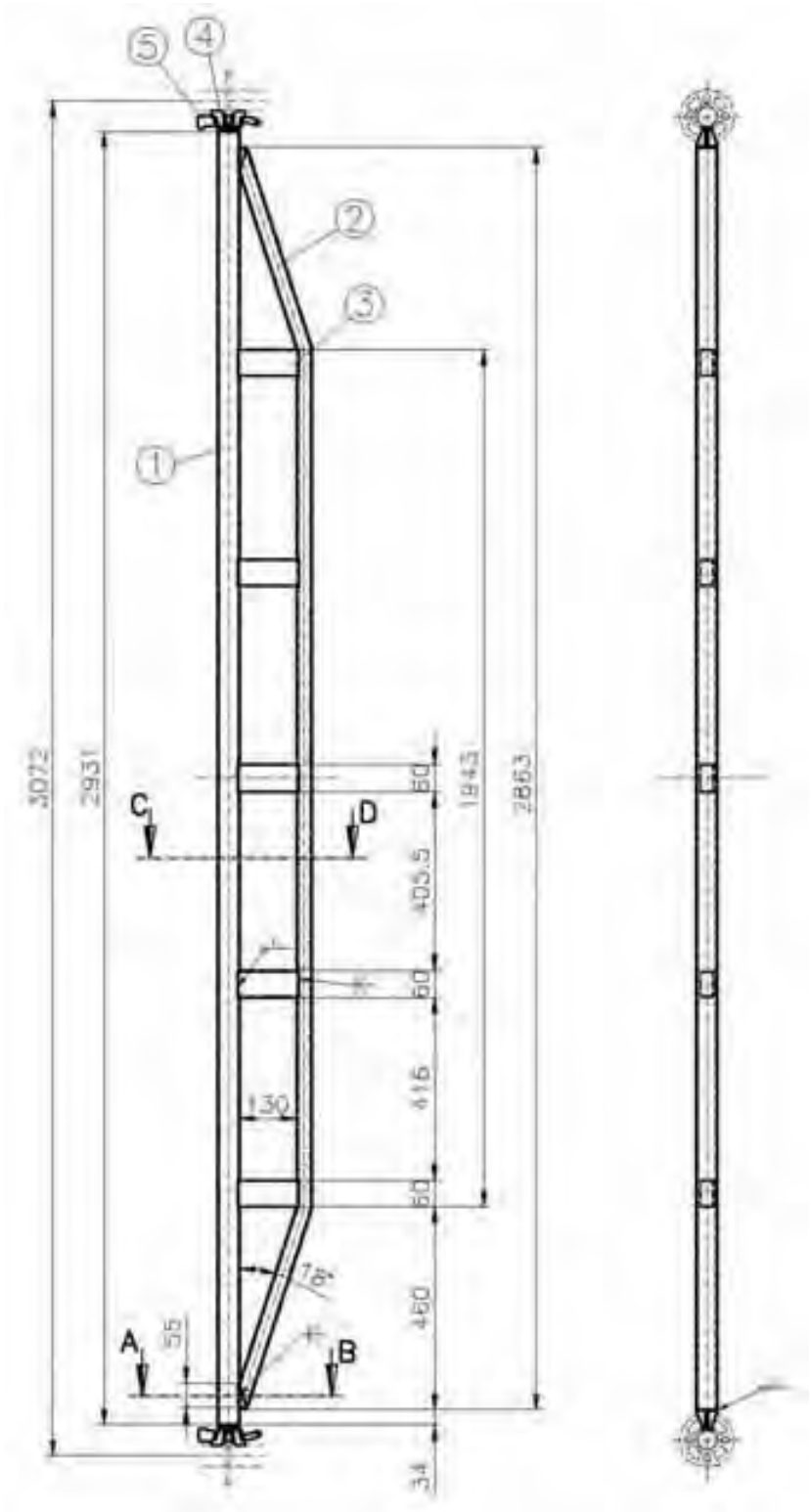
galvanized; all welds a=3mm

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Double tube ledger 2.57m

according to Z-8.22-906



(1)	R 48.3x3.2	S235JRH	ReH≥320N/mm^2
(2)	R 33.7x2.6	S235JRH	ReH≥320N/mm^2
(3)	RV 60x30x2	S235JR	
(4)	Tube ledger connection		
(5)	Wedge 6mm	S550MC	

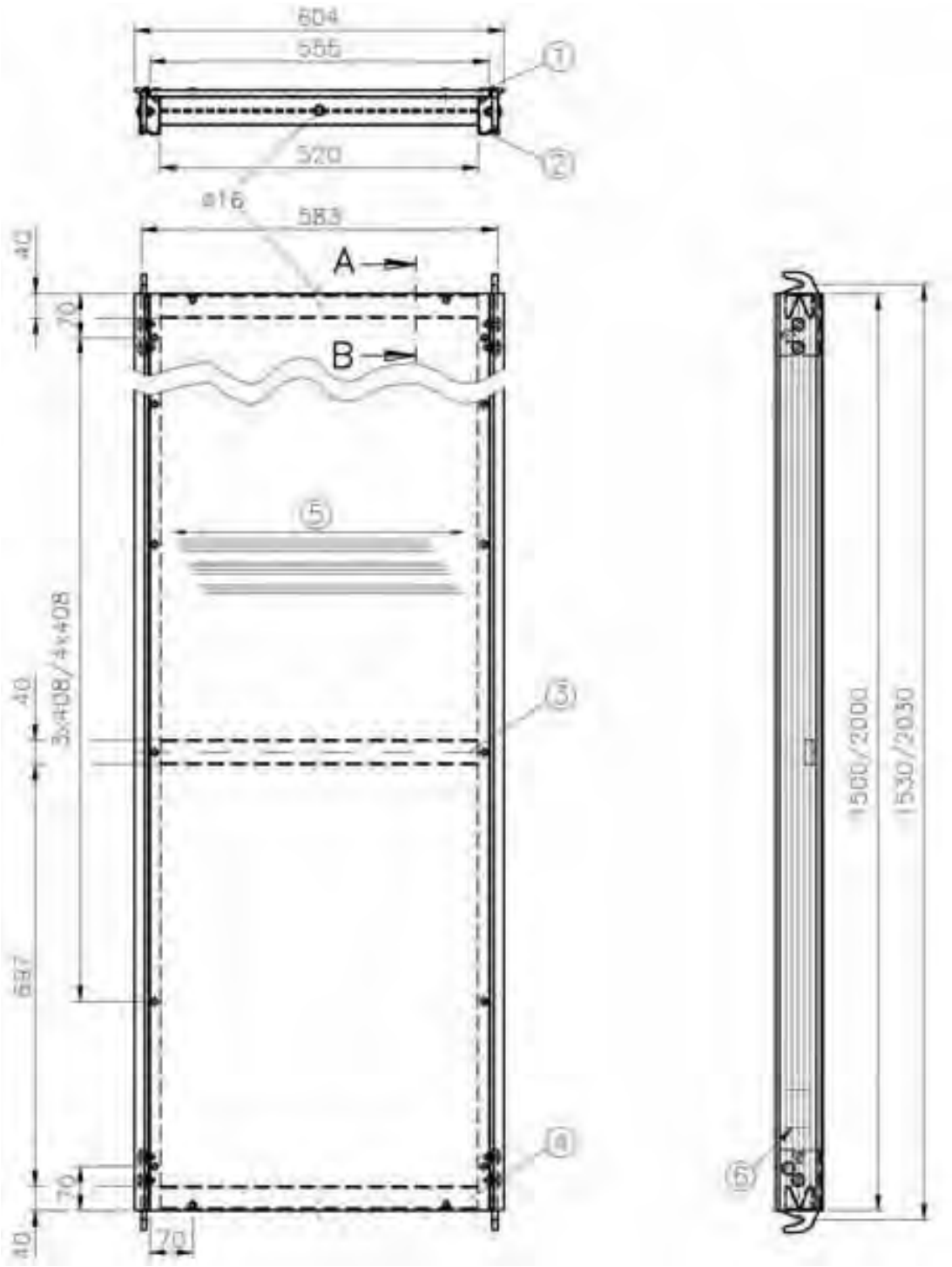
galvanized; all welds a=3mm

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Double tube ledger 3.07m

according to Z-8.22-906

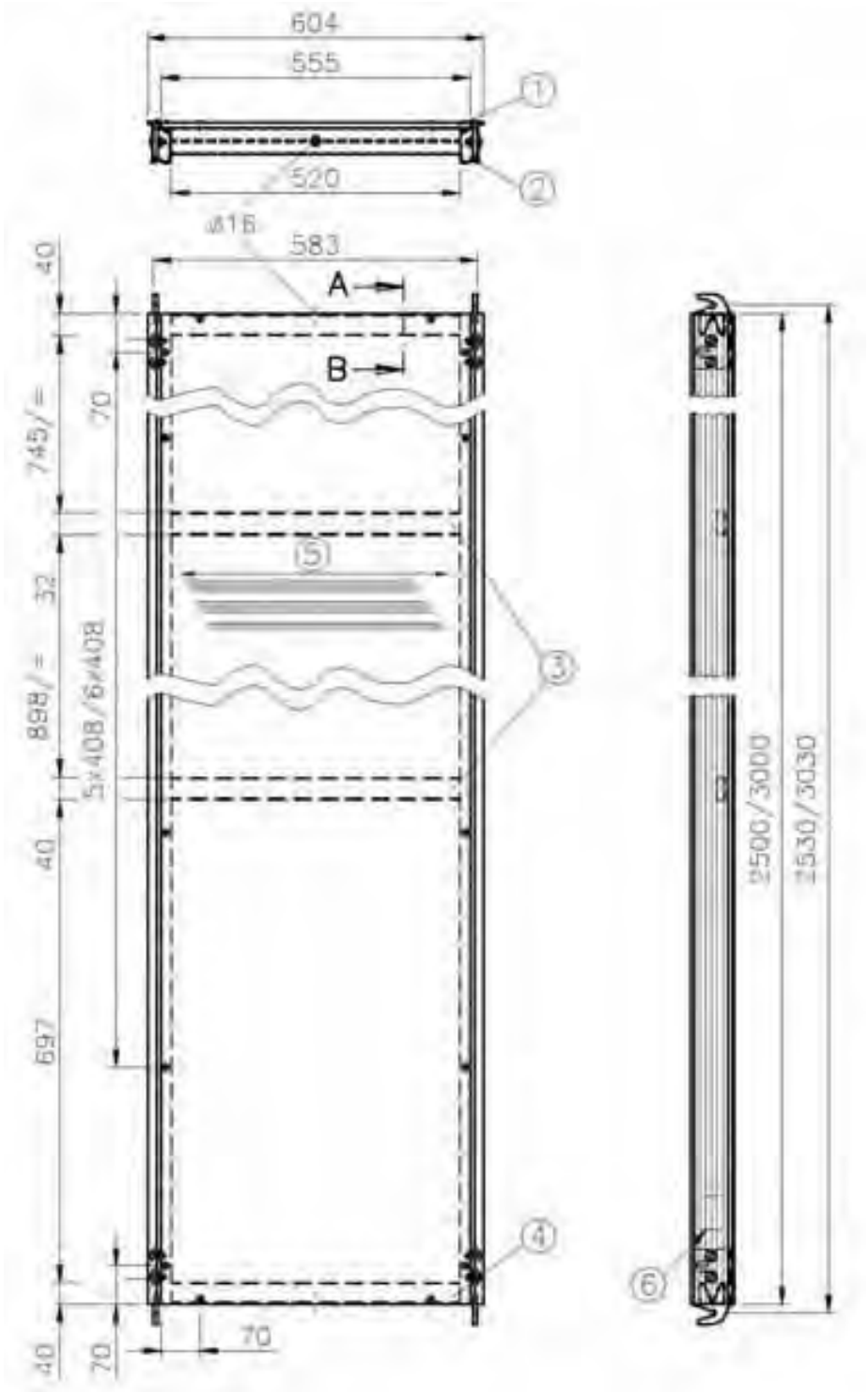


(1) WISA Combi Mirror plywood 10x555 in acc. with Z-9.1-430 BFU 100-G
(2) Brace profile 78x42 EN AW-6063-T66
(3) RV 40x15x2 EN AW-6063-T66
(4) Gripping profile EN AW-6063-T66
(5) Fibre direction
(6) Marking

Details, see M709-B162 Load class 3

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL
Aluminium frame deck
with plywood
1.57m; 2.07m
according to Z-8.22-906



(1) WISA Combi Mirror plywood 10x555 in acc. with Z-9.1-430 BFU 100-G
(2) Brace profile 78x42 EN AW-6063-T66
(3) RV 40x15x2 EN AW-6063-T66
(4) Gripping profile EN AW-6063-T66
(5) Fibre direction
(6) Marking

Details, see M709-B162 Load class 3

ALFIX GmbH
63828 Edelbach
09603 Großschirma

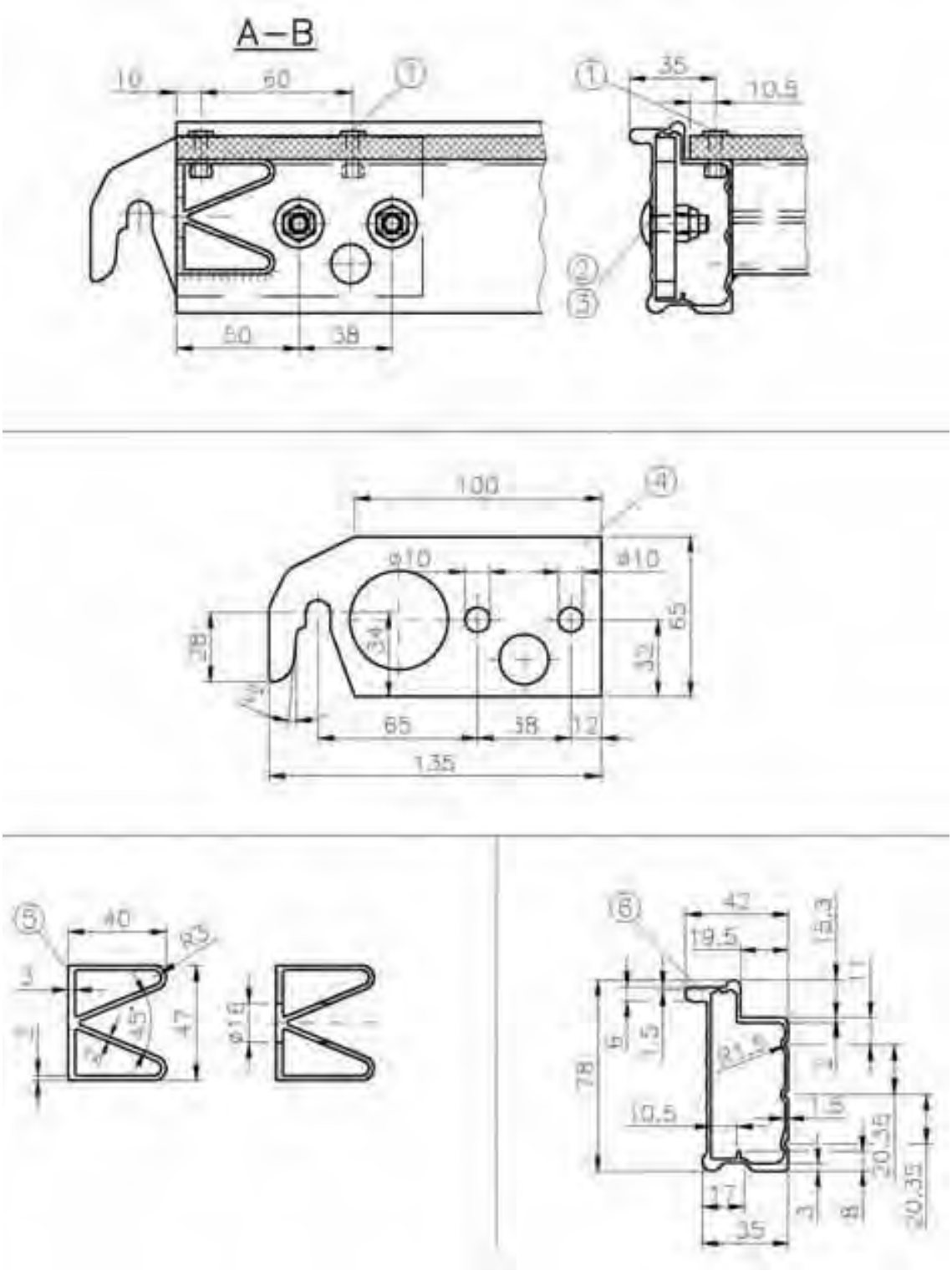
ALBLITZ MODUL

Aluminium frame deck

with plywood

2.57m; 3.07m

according to Z-8.22-906



(1)	Blind rivet Ø5x20	DIN 7337	EN AW-5754 H112
(2)	Round-head bolt	M8x20 DIN 603	
(3)	Nut, self-locking	M8 DIN 980	
(4)	Mounting claw	Bl 8	S235JR, galvanized
(5)	Gripping profile; web thickness 2mm		EN AW-6063-T66
(6)	Aluminium brace profile		EN AW-6063-T66

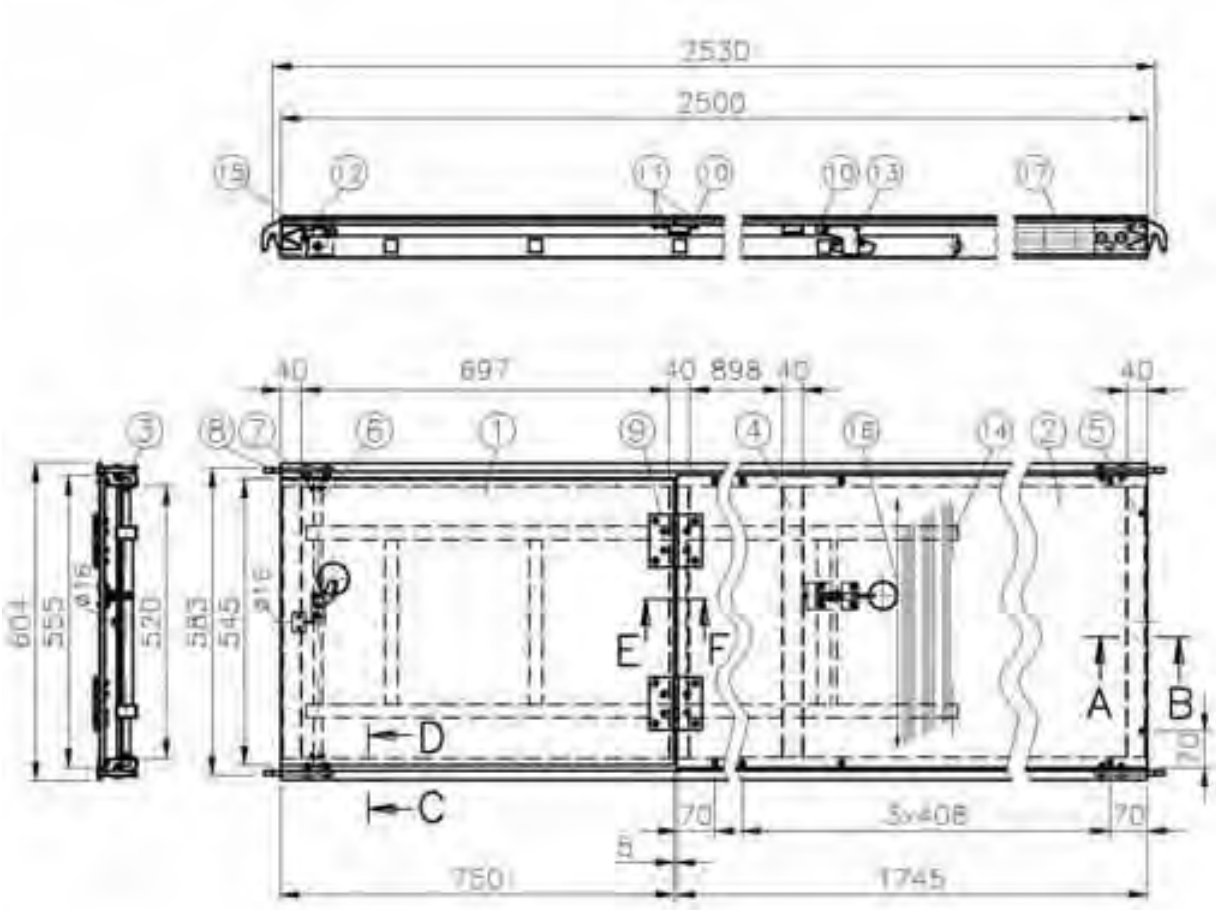
ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Details

Aluminium frame deck

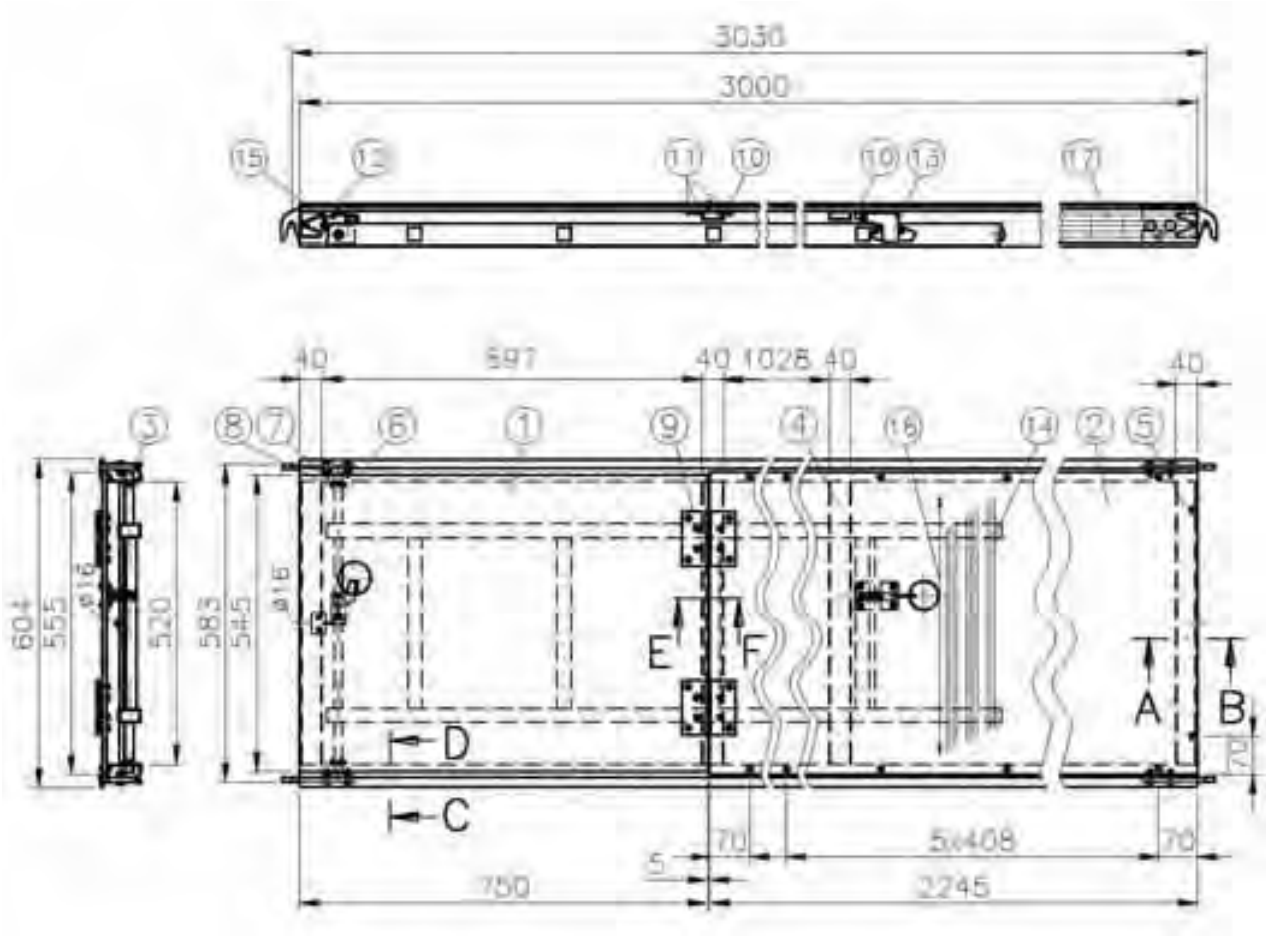
according to Z-8.22-906



(1)	WISA Combi Mirror plywood 10x545 in acc. with Z-9.1-430	BFU 100-G
(2)	WISA Combi Mirror plywood 10x555 in acc. with Z-9.1-430	BFU 100-G
(3)	Brace profile 78x42	EN AW-6063-T66
(4)	RV 40x15x2	EN AW-6063-T66
(5)	Gripping profile	EN AW-6063-T66
(6)	Tube 15x2	S235JRH
(7)	Disc Ø17	DIN 125
(8)	Cotter pin Ø4x25	DIN 94
(9)	Hinge 100x100x1.6	
(10)	Blind rivet Ø5x20	EN AW-5754 H112
(11)	Blind rivet Ø5x18	EN AW-5754 H112
(12)	Blind rivet Ø4.8x16	EN AW-5754 H112
(13)	Ladder holder	
(14)	Ladder,	see A709-A115
(15)	Ledger	
(16)	Fibre direction	
(17)	Marking	

Details, see M709-B162 and M709-B165

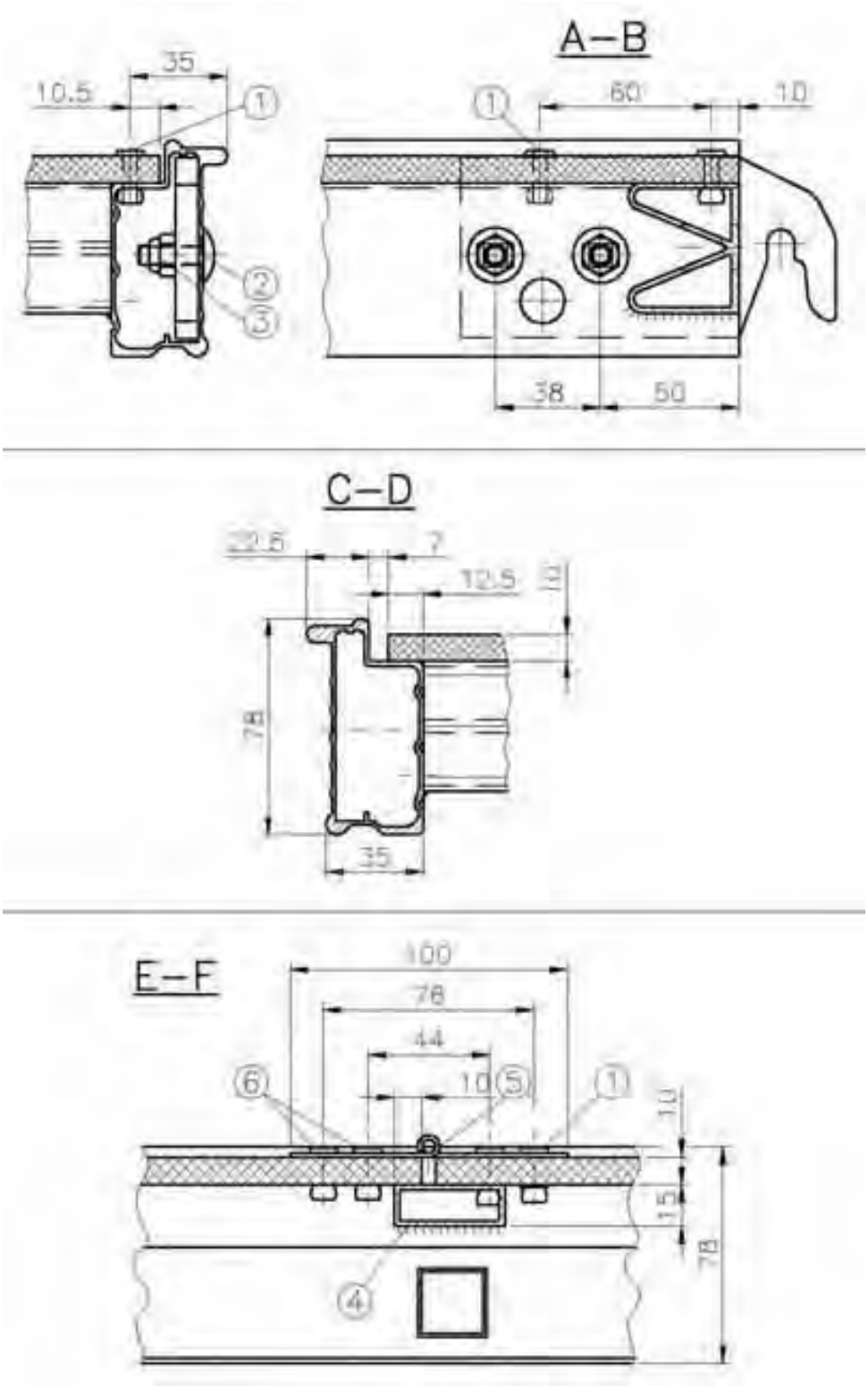
Load class 3



(1)	WISA Combi Mirror plywood 10x545 in acc. with Z-9.1-430 BFU 100-G	
(2)	WISA Combi Mirror plywood 10x555 in acc. with Z-9.1-430 BFU 100-G	
(3)	Brace profile 78x42	EN AW-6063-T66
(4)	RV 40x15x2	EN AW-6063-T66
(5)	Gripping profile	EN AW-6063-T66
(6)	Tube 15x2	S235JRH
(7)	Disc Ø17	DIN 125
(8)	Cotter pin Ø4x25	DIN 94
(9)	Hinge 100x100x1.6	
(10)	Blind rivet Ø5x20	EN AW-5754 H112
(11)	Blind rivet Ø5x18	EN AW-5754 H112
(12)	Blind rivet Ø4.8x16	EN AW-5754 H112
(13)	Ladder holder	
(14)	Ladder,	see A709-A115
(15)	Ledger	
(16)	Fibre direction	
(17)	Marking	

Details, see M709-B162 and M709-B165

Load class 3



(1)	Blind rivet Ø5x20	DIN 7337	EN AW-5754 H112
(2)	Round-head bolt	M8x20	DIN 603
(3)	Nut, self-locking	M8	DIN 980
(4)	RV 40x15x2		EN AW-6063-T66
(5)	Hinge 100x100x1.6		
(6)	Blind rivet Ø5x20	DIN 7337	EN AW-5754 H112

ALFIX GmbH
63828 Edelbach
09603 Großschirma

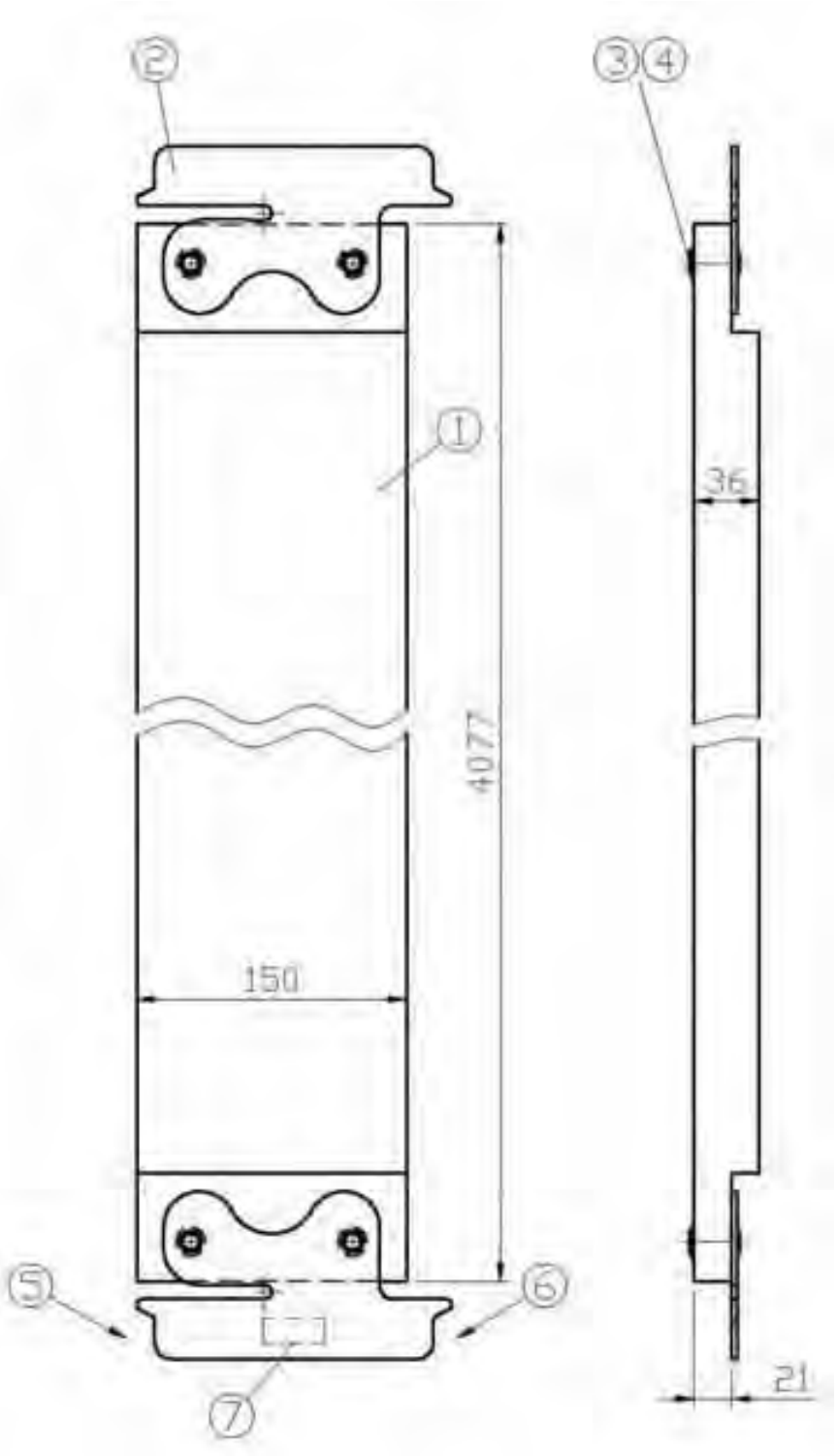
ALBLITZ MODUL

Sections for

Aluminium frame deck

with hatch-type access

according to Z-8.22-906



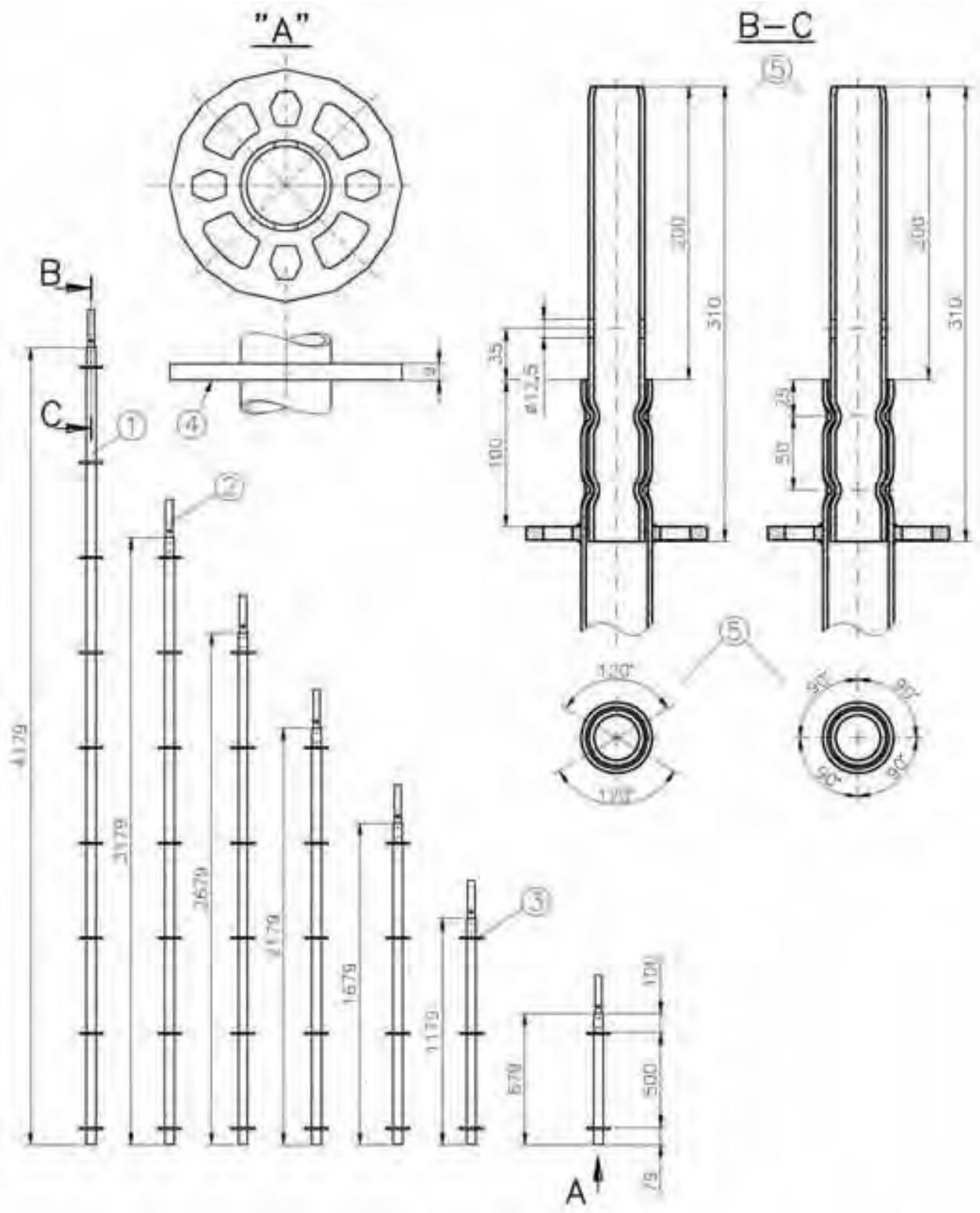
(1)	Board	DIN 4074 – S10-FI
(2)	Slit strip 175x2	DIN EN 10111-DD11, galvanized
(3)	Tube rivet	DIN 7340 – A8x0.75x28-steel, zinc-plate
(4)	Disc	DIN 125 – A8.4-steel, galvanized
(5)	Tube ledger connection	
(6)	U-ledger connection	
(7)	Marking	

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Modular toeboard 4.14m

according to Z-8.22-906



(1)	R 48.3x3.2	S235JRH	ReH≥320N/mm^2
(2)	R 38x3.6	S235JRH	ReH≥320N/mm^2
(3)	Connecting disc		
(4)	Marking		
(5)	Linear pressing	alternatively: 4x point pressing	

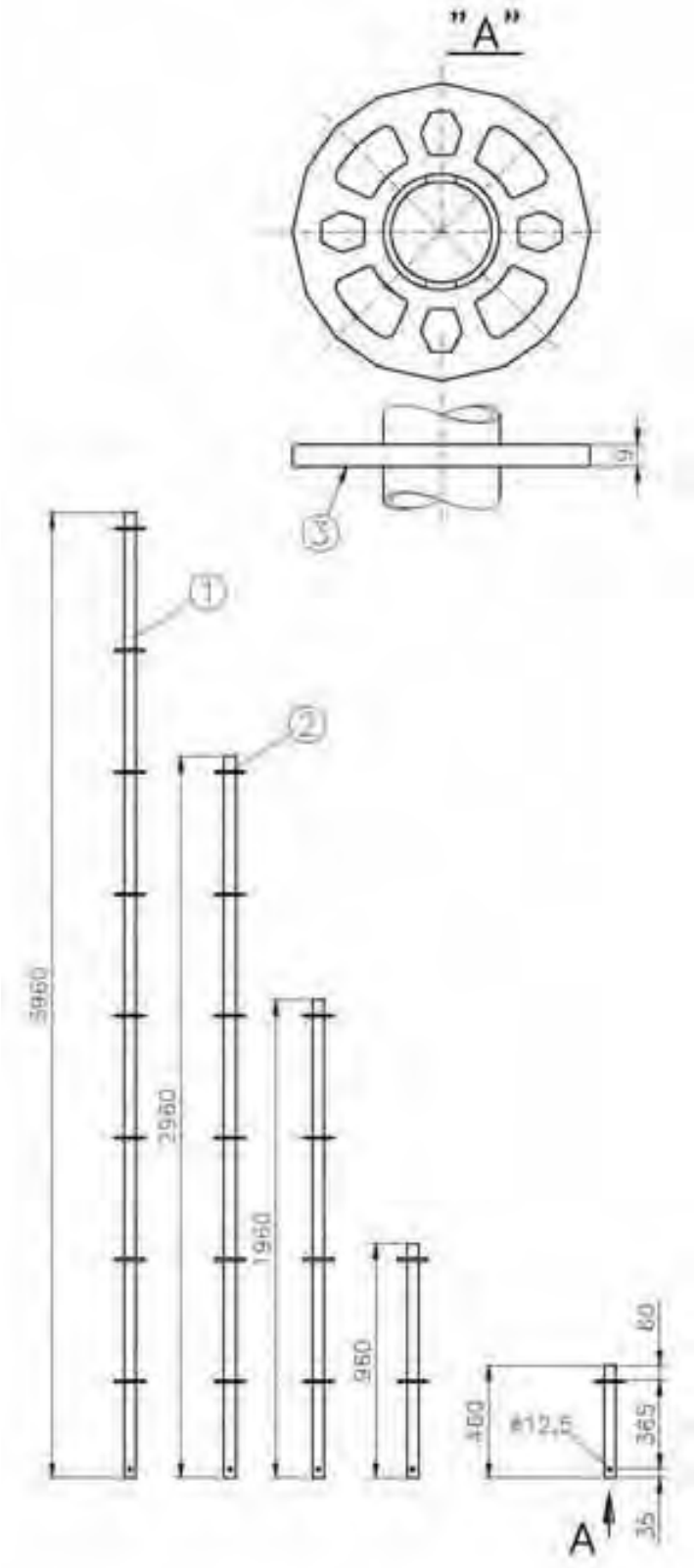
galvanized

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Starting vertical upright

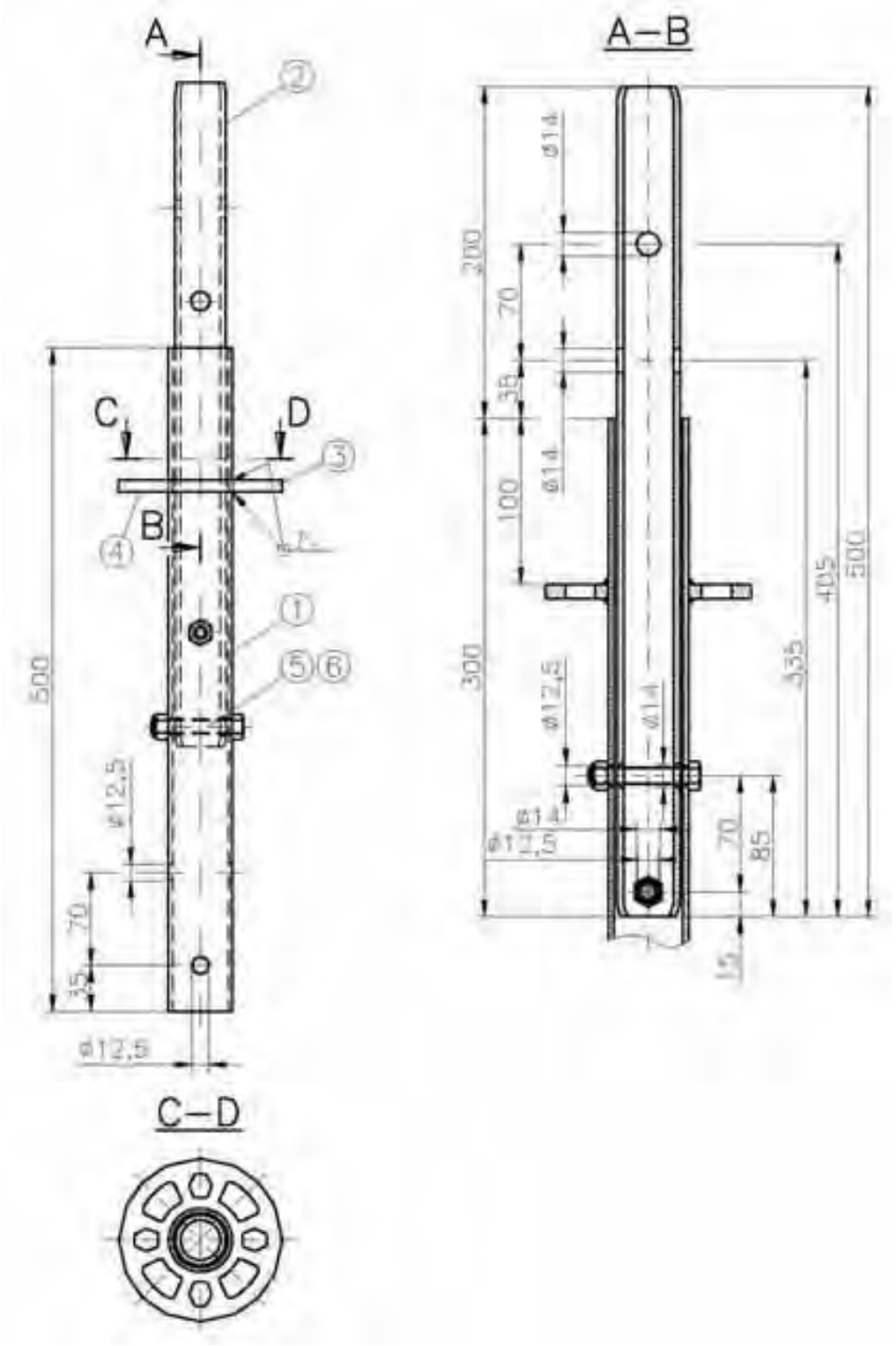
according to Z-8.22-906



(1) R 48.3x3.2 S235JRH ReH≥320N/mm^2
(2) Connecting disc
(3) Marking

galvanized

ALFIX GmbH 63828 Edelbach 09603 Großschirma	**ALBLITZ MODUL** **Scaffold assembly post** according to Z-8.22-906	Annex B, page 70 to the national technical approval Z-8.22-913 of 7. May 2012 Deutsches Institut für Bautechnik M710-B168_ABM



(1)	R 48.3x3.2	S235JRH	ReH≥320N/mm^2
(2)	R 38x4	S235JRH	ReH≥320N/mm^2
(3)	Connecting disc		
(4)	Marking		
(5)	Hexagon screw	DIN 931 – M10x60-8.8-galvanized	
(6)	Hexnut, self-locking	DIN 985 – M10-8-galvanized	

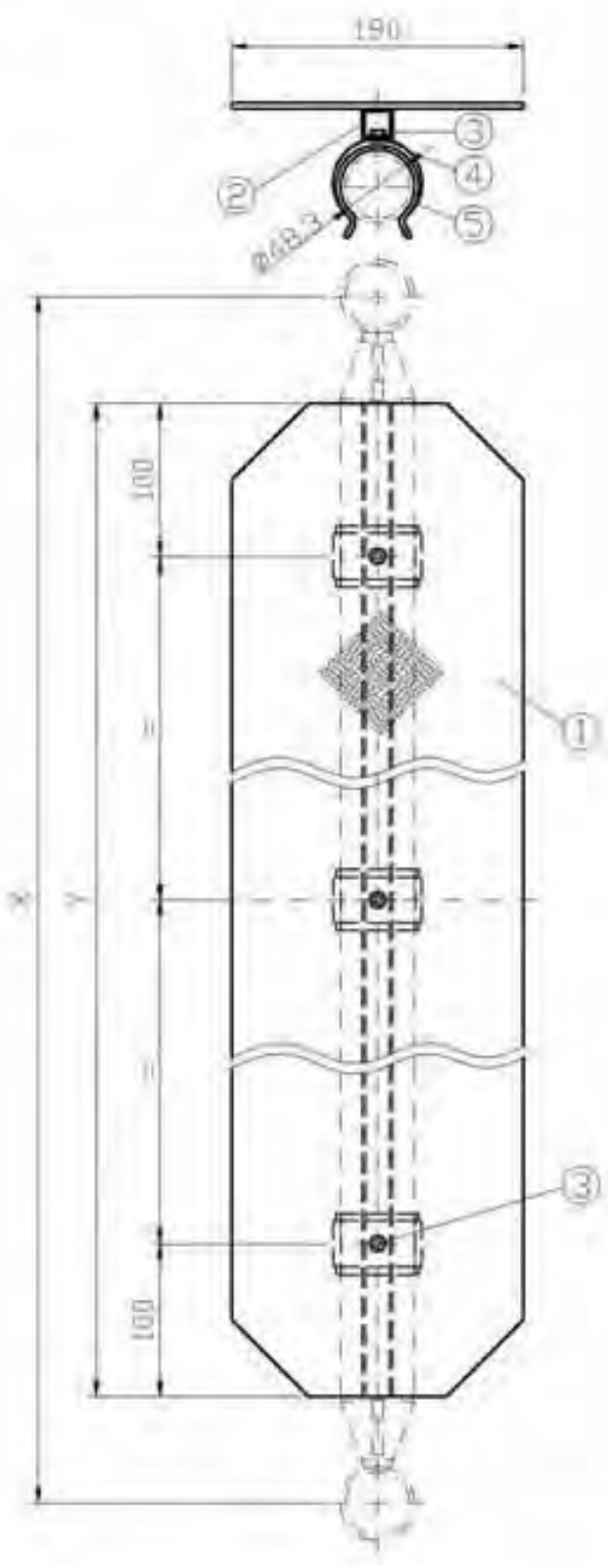
galvanized

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Vertical upright 0.50m with detachable spigot fitting 500

according to Z-8.22-906



X	Y
732	591
1088	947
1286	1145
1400	1259
1572	1431
2072	1931
2572	2431
3072	2931
4144	4003

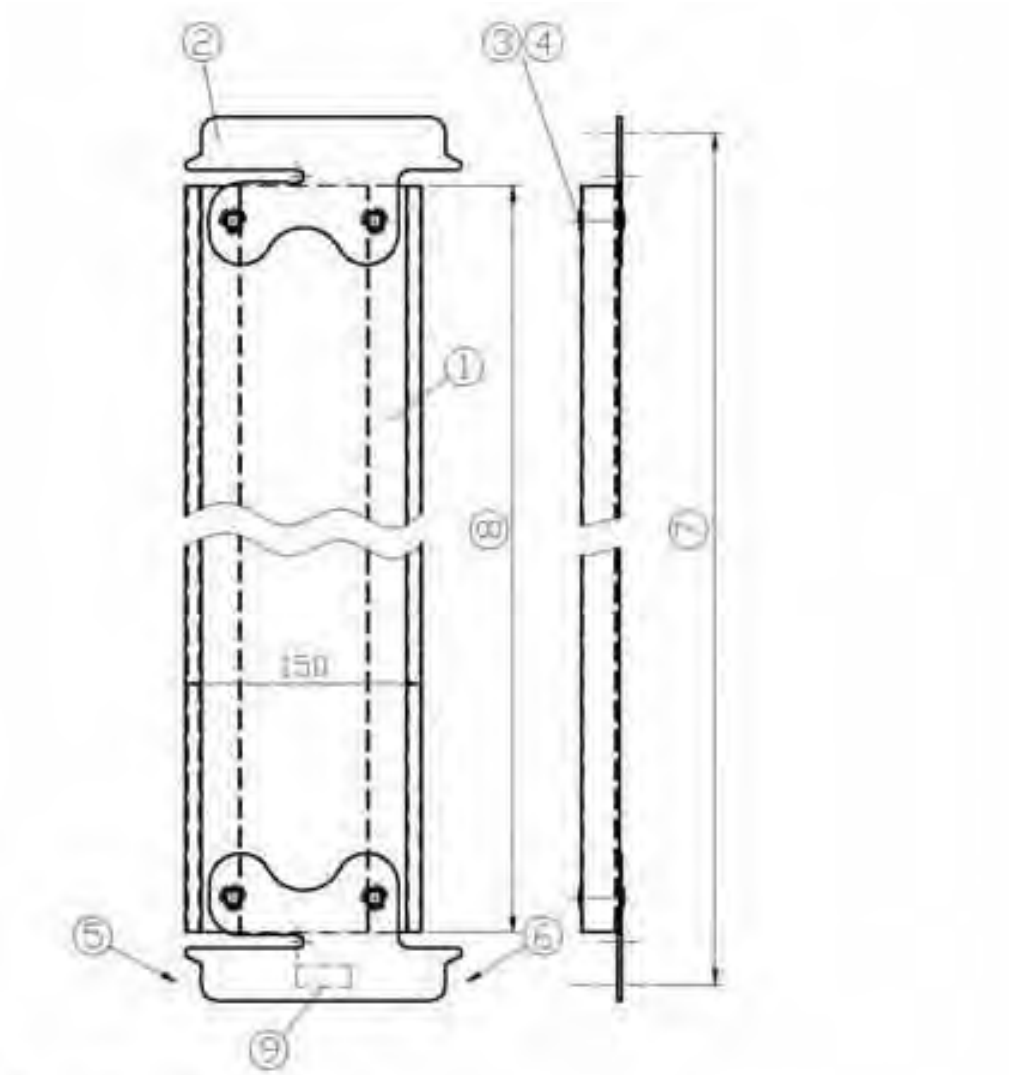
(1)	Checker plate, quintet W5 2.5/3.3x190	DIN EN 1386	EN AW-5083 H224
(2)	RV 20x20x2	EN AW-6060-T66	
(3)	Blind rivet Ø5x12	DIN 7337	EN AW-5754 H112
(4)	Disc 5.3	DIN 125	
(5)	Clamp pipe, galvanized		

ALFIX GmbH
63828 Edelbach
09603 Großschirma

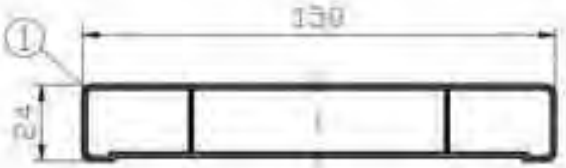
ALBLITZ MODUL

Modular gap cover

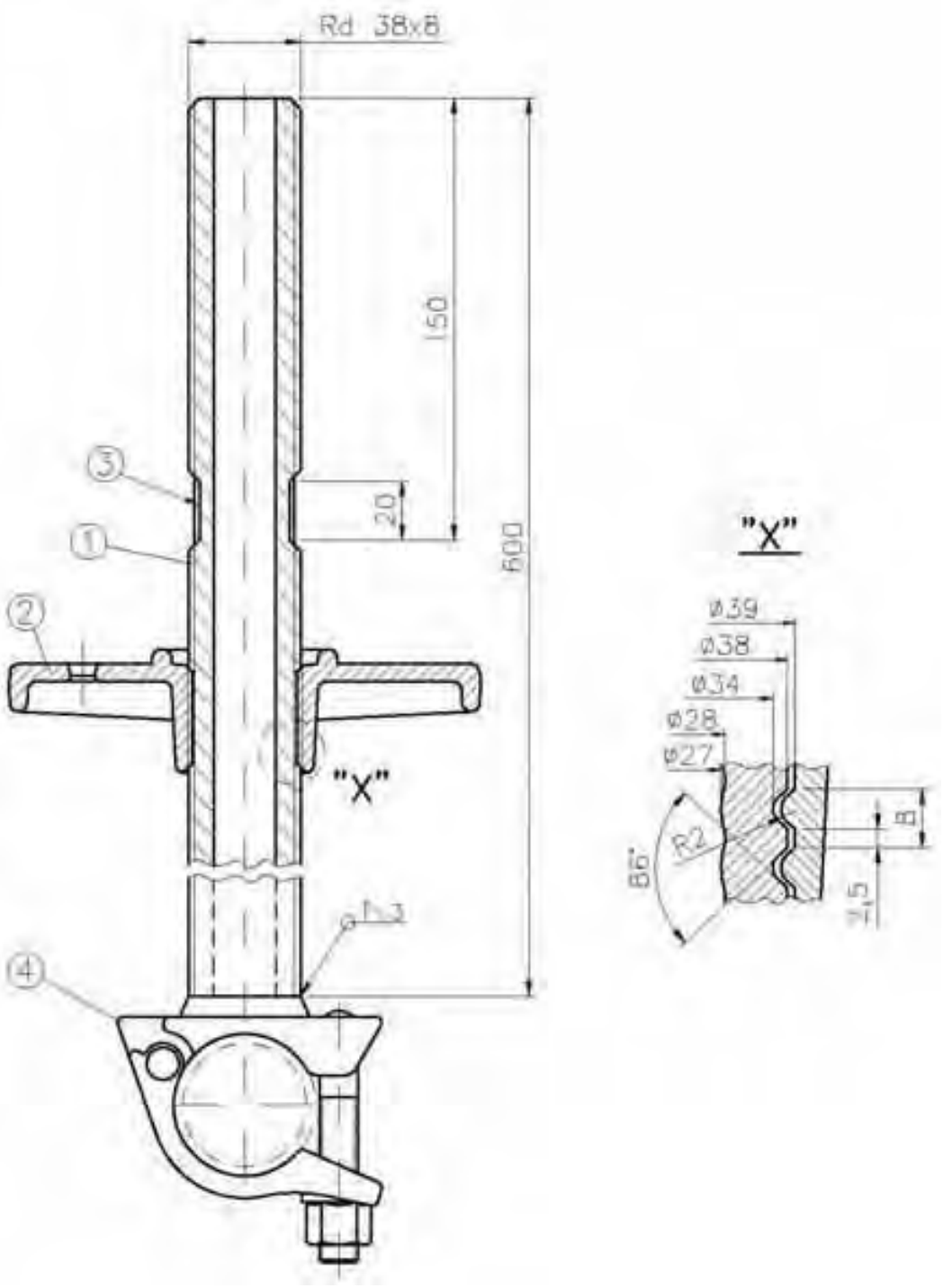
according to Z-8.22-906



⑦	⑧
390	323
732	665
1088	1021
1400	1333
1572	1505
2072	2005
2572	2505
3072	3005



(1)	Aluminium profile toeboard; s=1.25mm	EN AW-6063-T66
(2)	Slit strip 175x2	DIN EN 10111-DD11, galvanized
(3)	Disc	DIN 125 – A8.4-steel, galvanized
(4)	Tube rivet	DIN 7340 – A8x0.75x29-steel, zinc plated
(5)	Tube ledger connection	
(6)	U-ledger connection	
(7)	Bay length	
(8)	Length L	
(9)	Marking	



(1) Thread rolled on tube Ø38x4.5 S355J2H
(2) Adjusting nut G20Mn5, zinc-plated
(3) Thread damaged by two dents
(4) Halfcoupler, class B

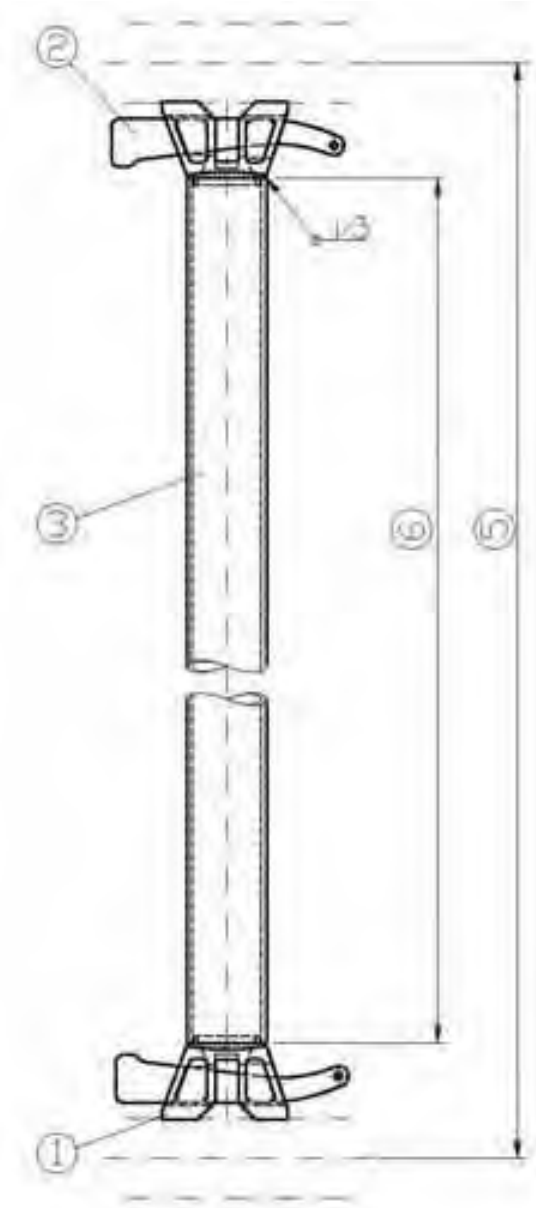
galvanized

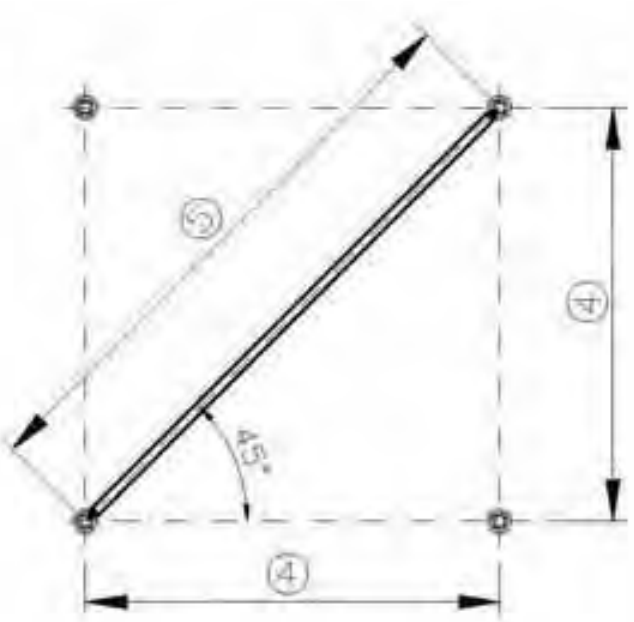
ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Spindle coupling

according to Z-8.22-906

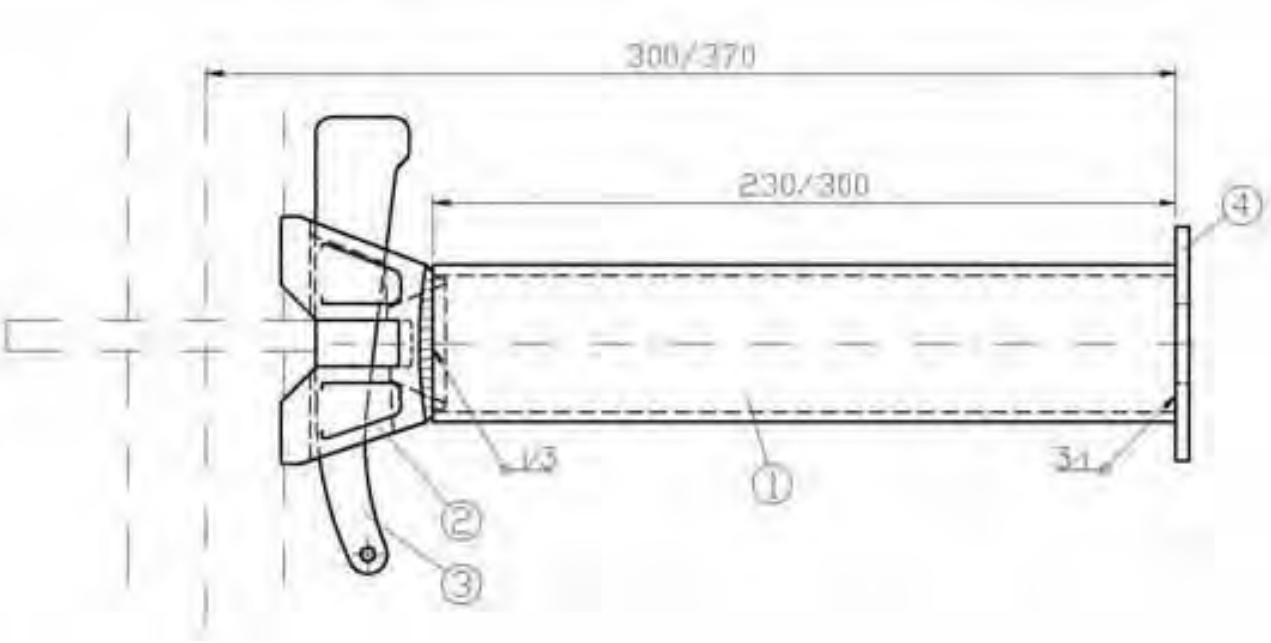




④	⑤	⑥
732	1035	894
1088	1539	1398
1286	1819	1678
1400	1980	1839
1572	2223	2082
2072	2930	2789
2572	3637	3496
3072	4344	4203

(1) Tube ledger connection
(2) Wedge 6mm S550MC
(3) R 48.3x3.2 S235JRH ReH≥320N/mm^2
(4) Bay width
(5) Bay diagonal brace
(6) Length, item 3

galvanized



(1)	R 48.3x3.2	S235JRH	ReH≥320N/mm^2
(2)	Tube ledger connection		
(3)	Wedge 6mm	S550MC	
(4)	Bl 4	S235JR	

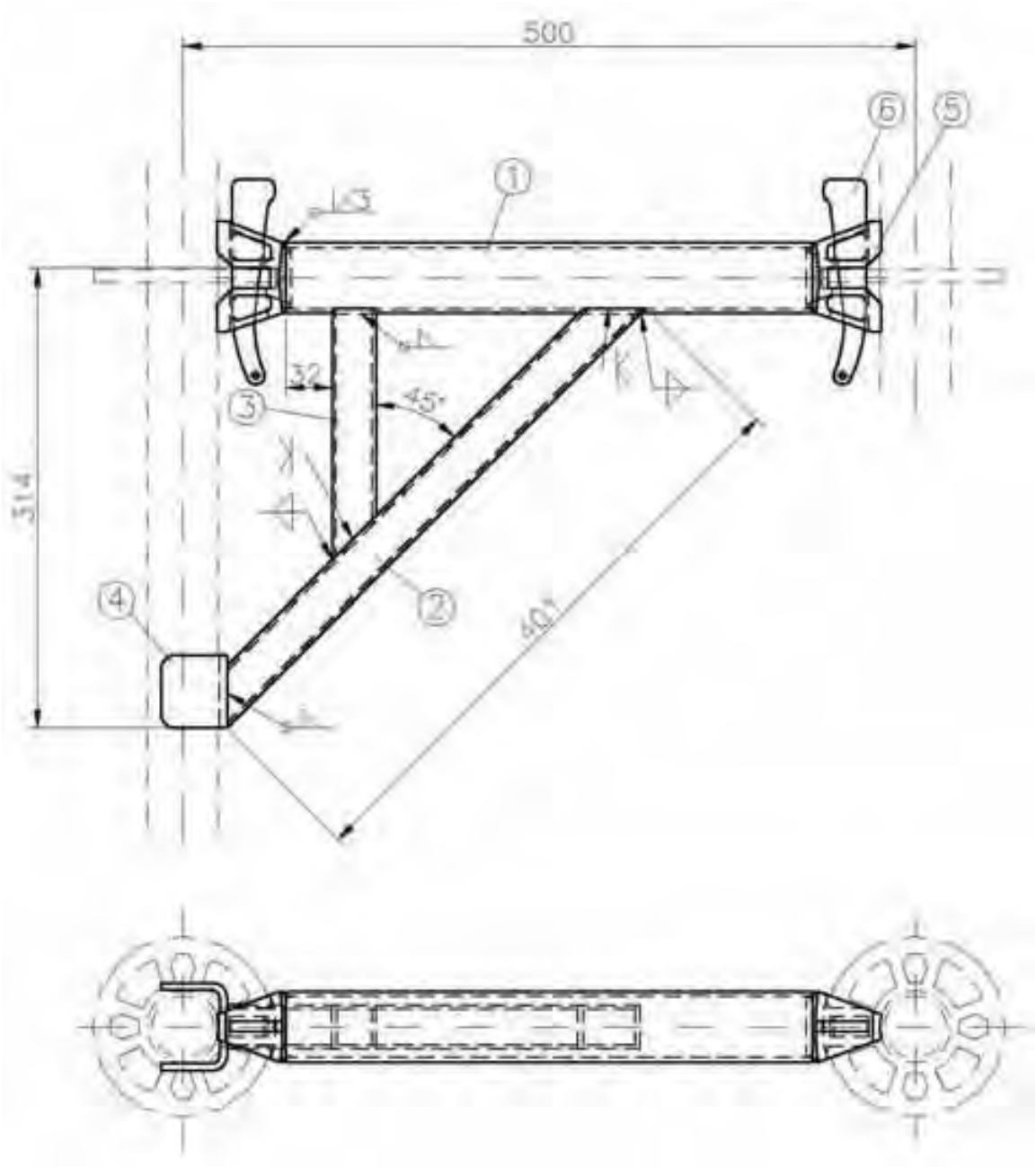
galvanized

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Bracket ledger

according to Z-8.22-906



(1)	R 48.3x3.2	S235JRH	ReH≥320N/mm^2
(2)	RV 30x30x2.5	S235JRH	
(3)	RV 30x30x2.5	S235JRH	
(4)	Bd 50x5	S235JR	
(5)	Tube ledger connection		
(6)	Wedge 6mm	S550MC	

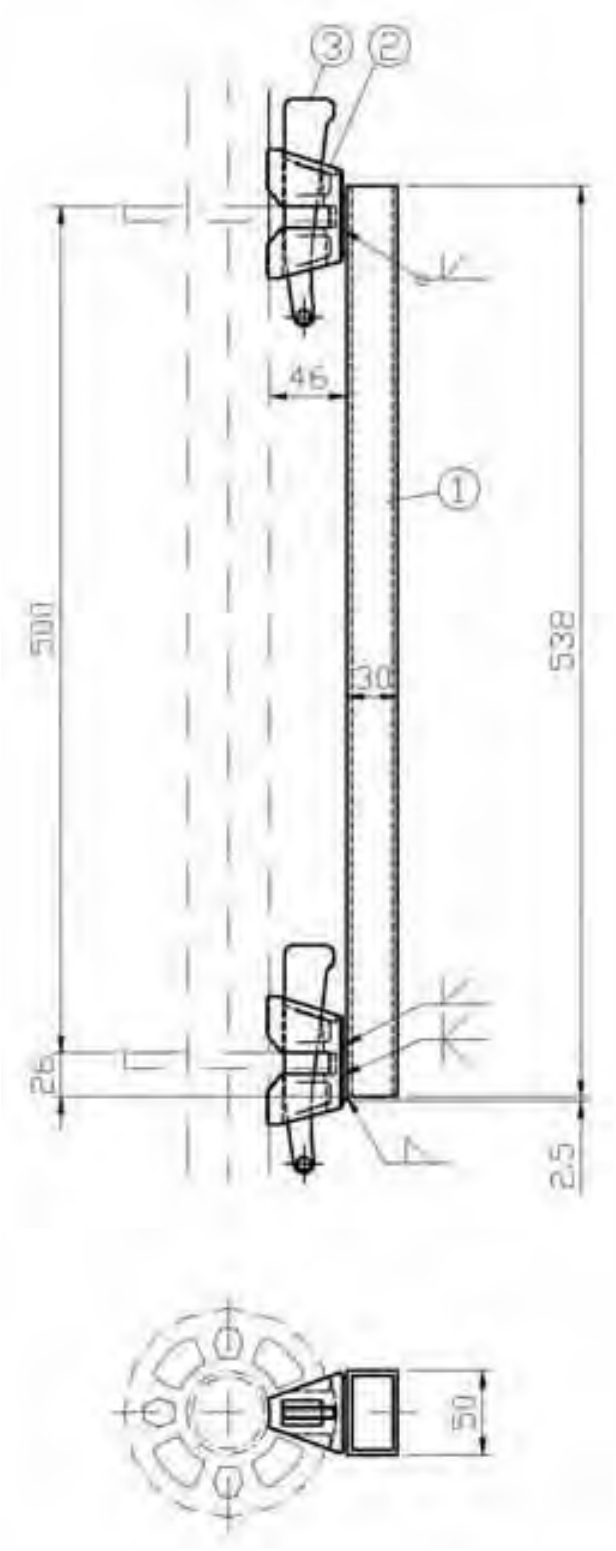
galvanized; all welds a=3mm

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Bracket RE 0.50m

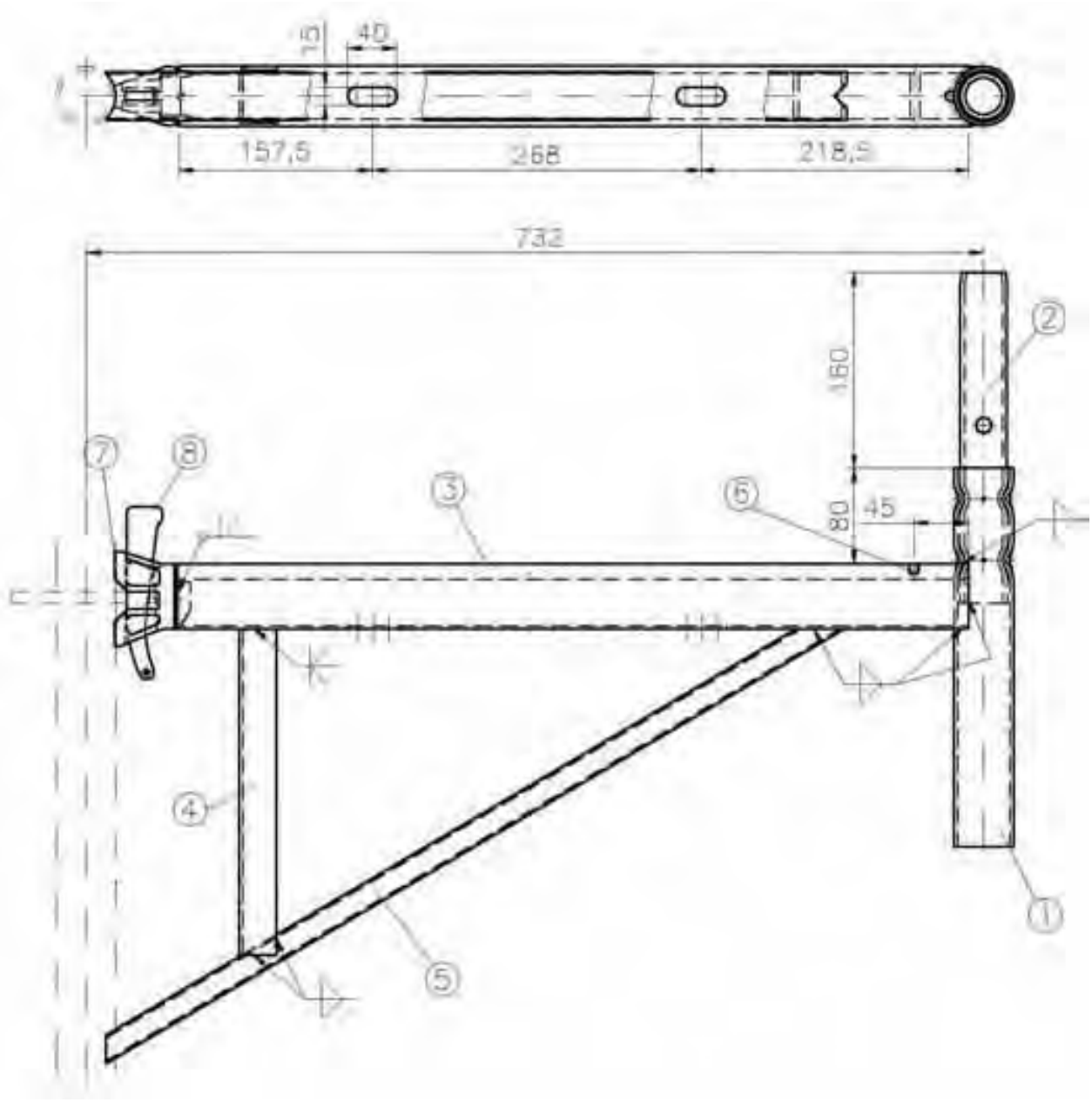
according to Z-8.22-906



(1) RV 50x30x3 S235JRH
(2) U-ledger connection plus
(3) Wedge 6mm S550MC

galvanized

ALFIX GmbH 63828 Edelbach 09603 Großschirma	**ALBLITZ MODUL** **Suspended scaffold connector** according to Z-8.22-906	Annex B, page 78 to the national technical approval Z-8.22-913 of 7. May 2012 Deutsches Institut für Bautechnik M711-B205_ABM



(1)	R 48.3x3.2	S235JRH	ReH≥320N/mm^2
(2)	R 38x3.6	S235JR	ReH≥320N/mm^2
(3)	U-profile 48x52x2.5	S235JR	
(4)	U 50x30x3; L=147	S235JR	
	alternatively: U 47x30x3	S235JR	
(5)	RV 40x20x2	S235JRH	
(6)	Rd 8	S235JR	
(7)	U-ledger connection		
(8)	Wedge 6mm	S550MC	

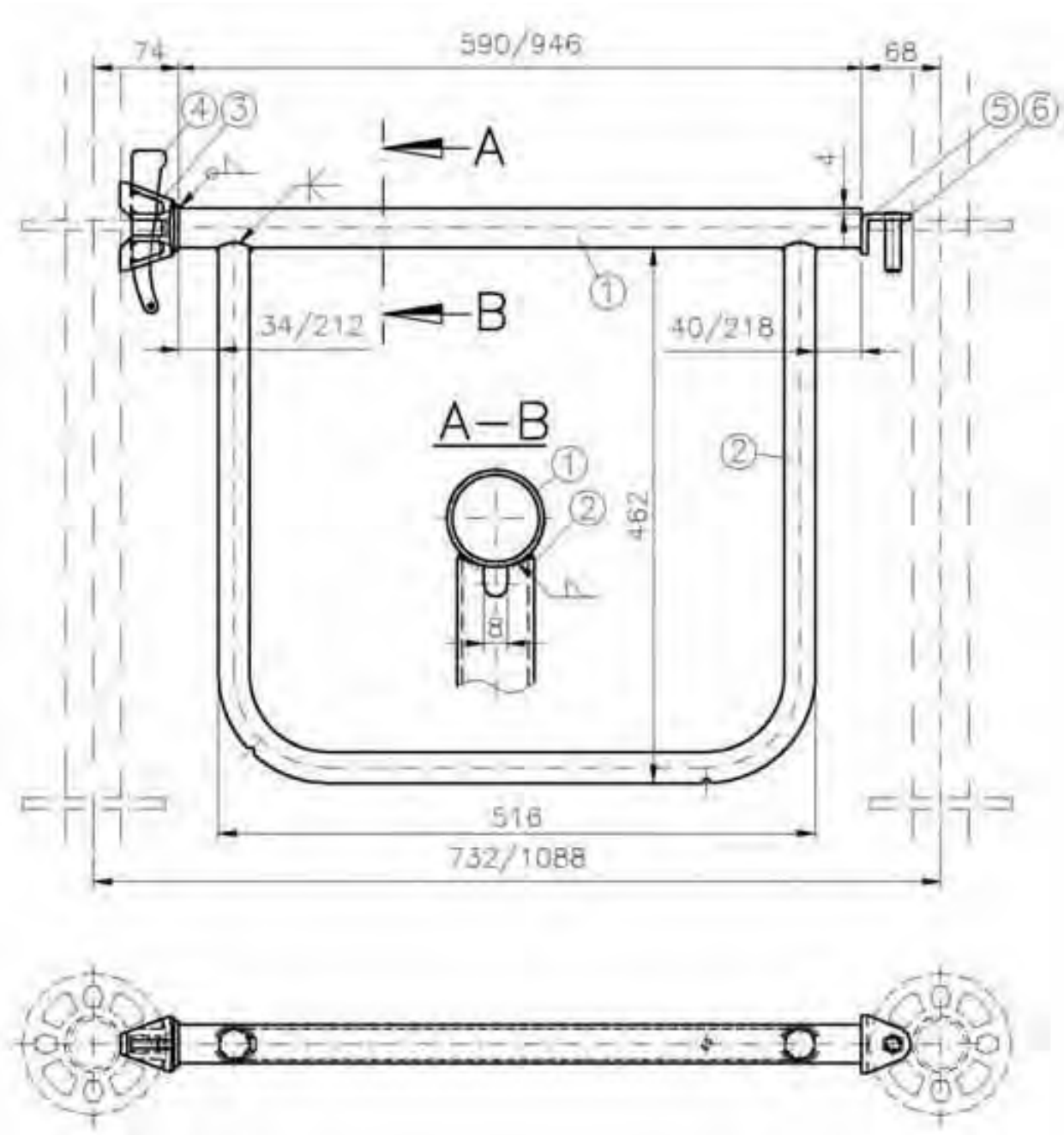
galvanized; all welds a=2.5mm

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

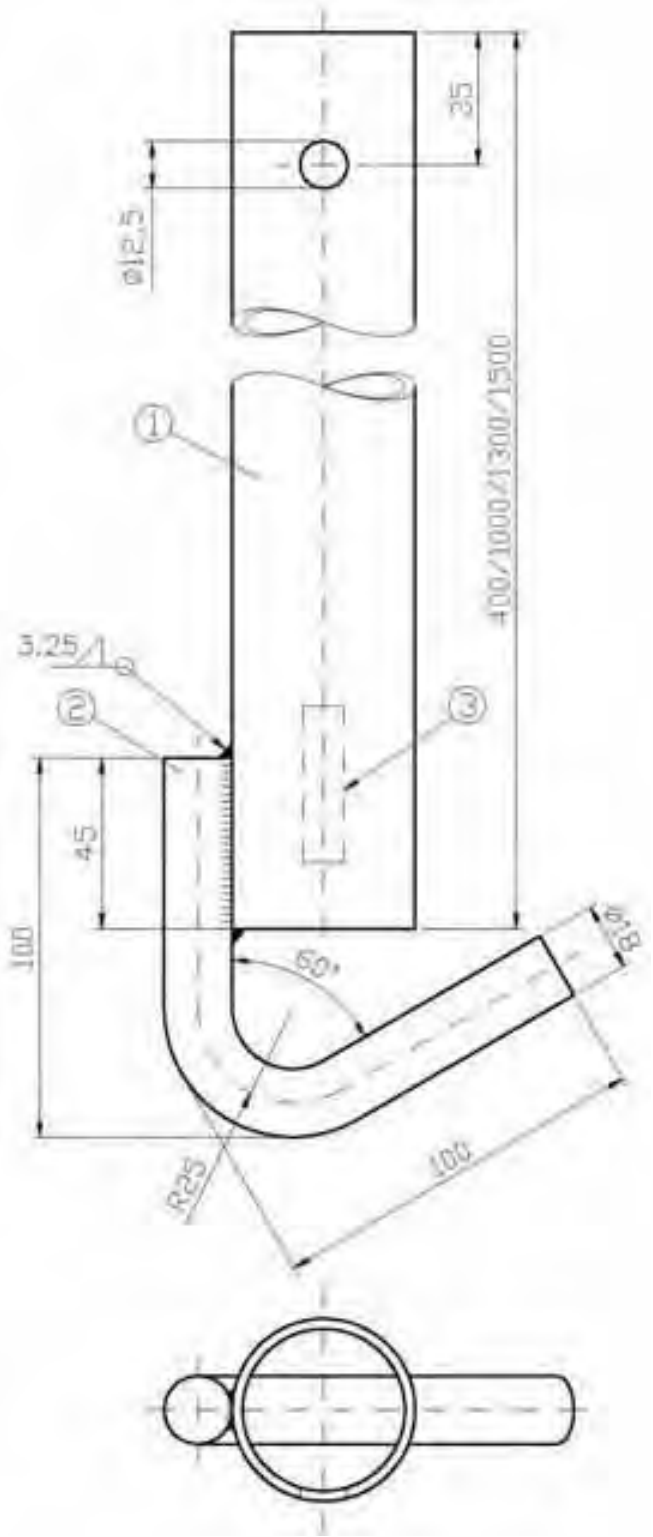
Modular bracket 0.73m

according to Z-8.22-906



(1)	R 33.7x1.8	S235JRH	ReH≥320N/mm^2
	alternatively: tube 33.7x2.0	S235JR	
(2)	Tube 26.9x2	S235JR	
(3)	Tube ledger connection		
(4)	Wedge 6mm	S550MC	
(5)	Fl 50x5	S235JR	
(6)	Rd 14	S235JR	

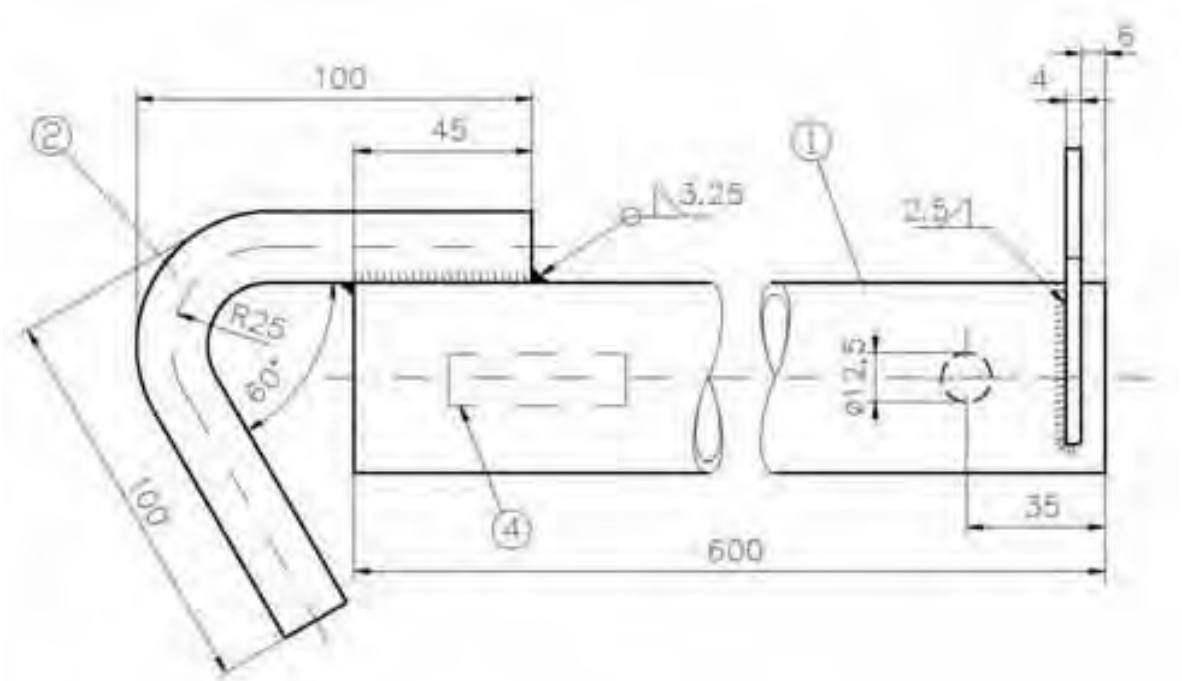
galvanized; all welds a=2.5mm

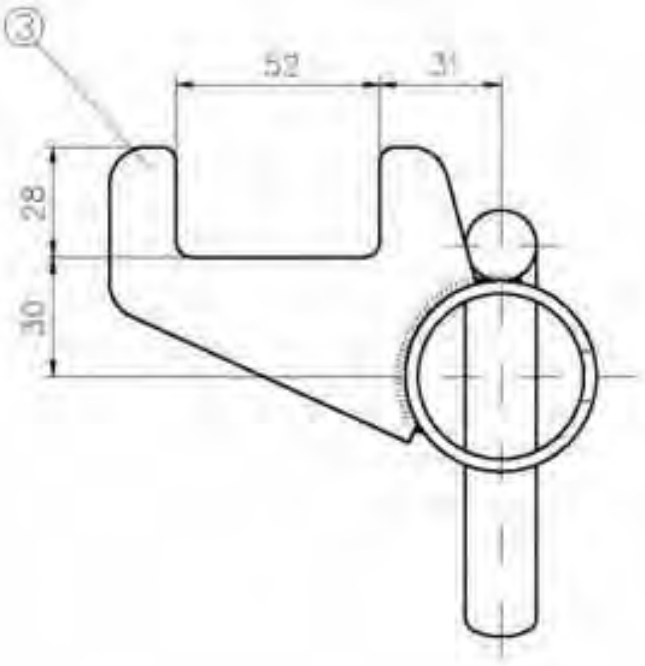


(1) R 48,3xt S235JRH ReH≥320N/mm^2
t=2.7mm; alternatively 3.2mm
(2) Rd 18 S355J2
(3) Marking

galvanized

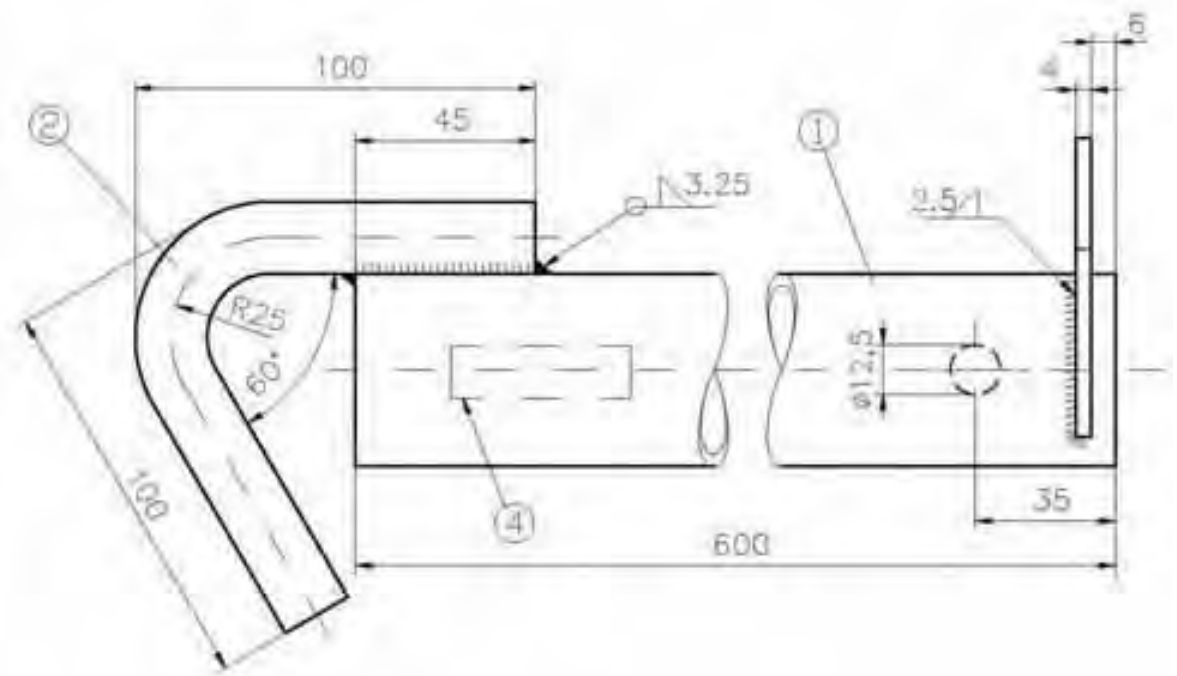
ALFIX GmbH 63828 Edelbach 09603 Großschirma	**ALBLITZ MODUL** **Scaffold retainer** according to Z-8.1-862	Annex B, page 81 to the national technical approval Z-8.22-913 of 7. May 2012 Deutsches Institut für Bautechnik A709-A129_ABM

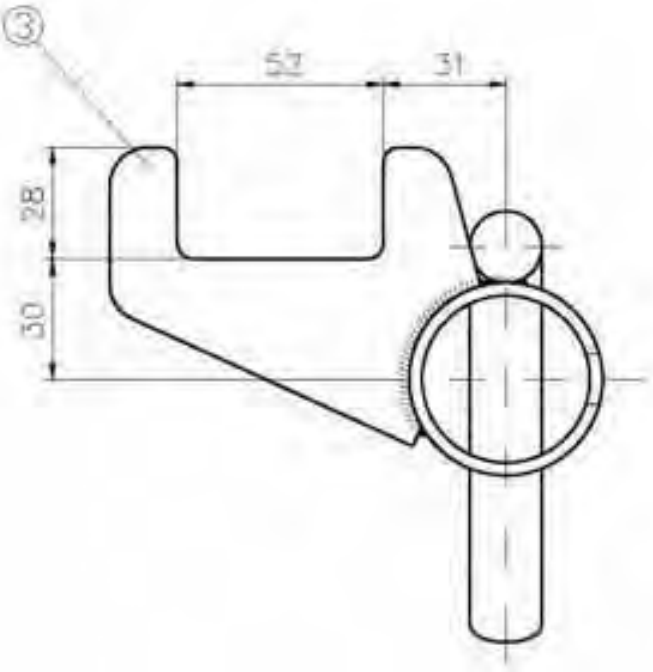




(1)	R 48.3xt t=2.7mm; alternatively 3.2mm	S235JRH	ReH≥320N/mm^2
(2)	Rd 18	S355J2	
(3)	Bl 4	S235JR	
(4)	Marking		

galvanized

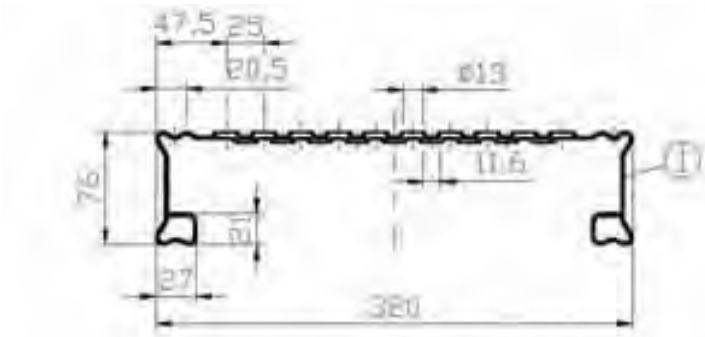


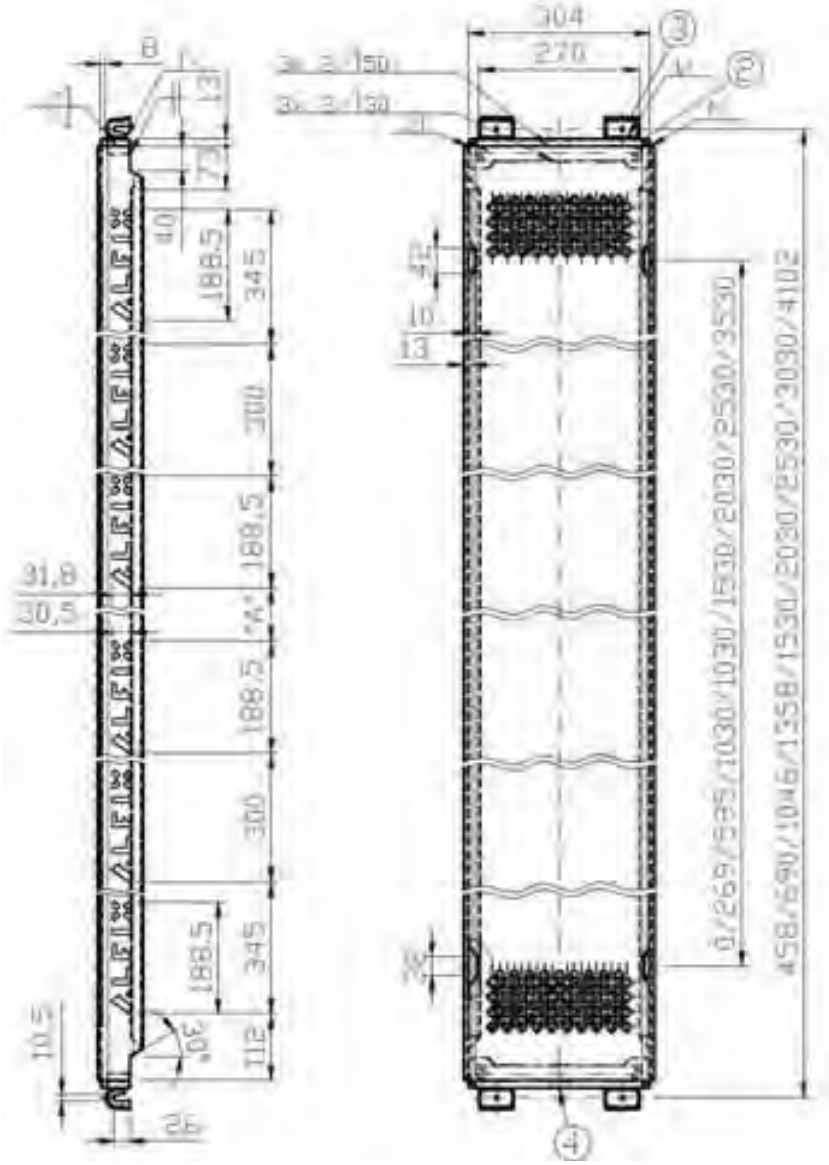


(1) Thread rolled on tube Ø38x4.5 S355J2H
(2) Adjusting nut G20Mn5, zinc-plated
(3) Bl t=5mm S235JR
(4) Thread damaged by two dents
(5) Marking

galvanized

Bay length	Number of lettering(s)	Size “A“	Load class
[mm]	[left/right]	[mm]	
500	1/-	-	6
732	1/1	36	6
1088	1/1	392	6
1400	1/1	704	6
1572	1/1	876	6
2072	2/2	686	6
2572	2/2	1186	5
3072	3/3	1086	4
4144	3/3	2203	3





(1) Bd 1.5mm DIN EN 10111-DD11 ReH≥280N/mm² Rm≥360N/mm²
alternatively: DIN EN 10025-2 S235JR ReH≥280N/mm² Rm≥360N/mm²
(2) Bd 1.5mm DIN EN 10111-DD11 ReH≥240N/mm² Rm≥360N/mm²
(3) Bd 4mm DIN EN 10111-DD13 ReH≥240N/mm² Rm≥360N/mm²
(4) Marking

galvanized; all welds a=2mm

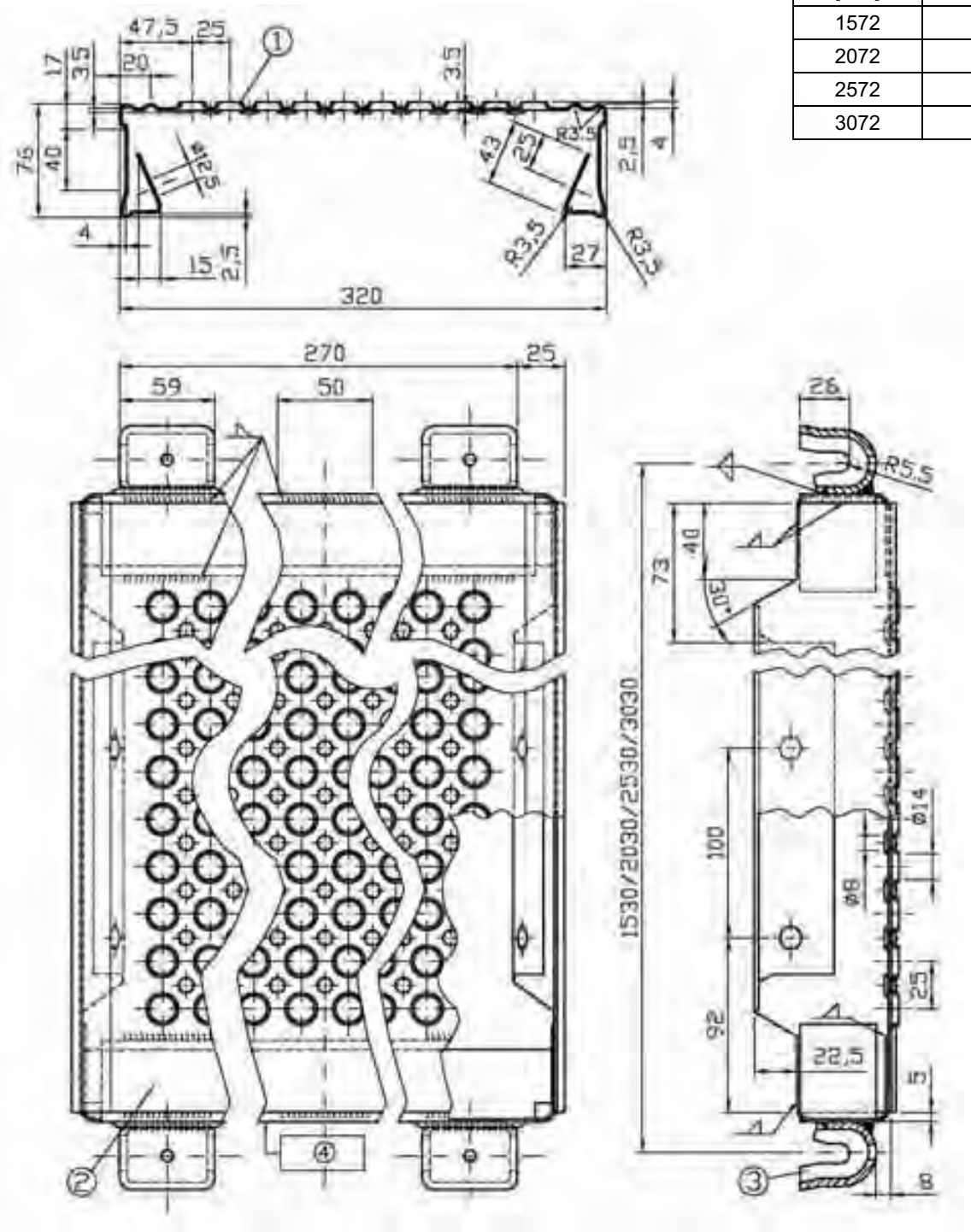
ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Steel plank AF 0.32m

according to Z-8.1-862

Bay length	Load class
[mm]	
1572	6
2072	6
2572	5
3072	4



(1) Bd 590x1.5 DIN EN 10111-DD11 ReH≥280N/mm²
(2) Bd 120x2; altern. Bd 120x1.5 DIN EN 10111-DD11 ReH≥240N/mm²
(3) Bd 70x4 DIN EN 10111-DD13 ReH≥240N/mm²
(4) Marking

galvanized; all welds a=3mm

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

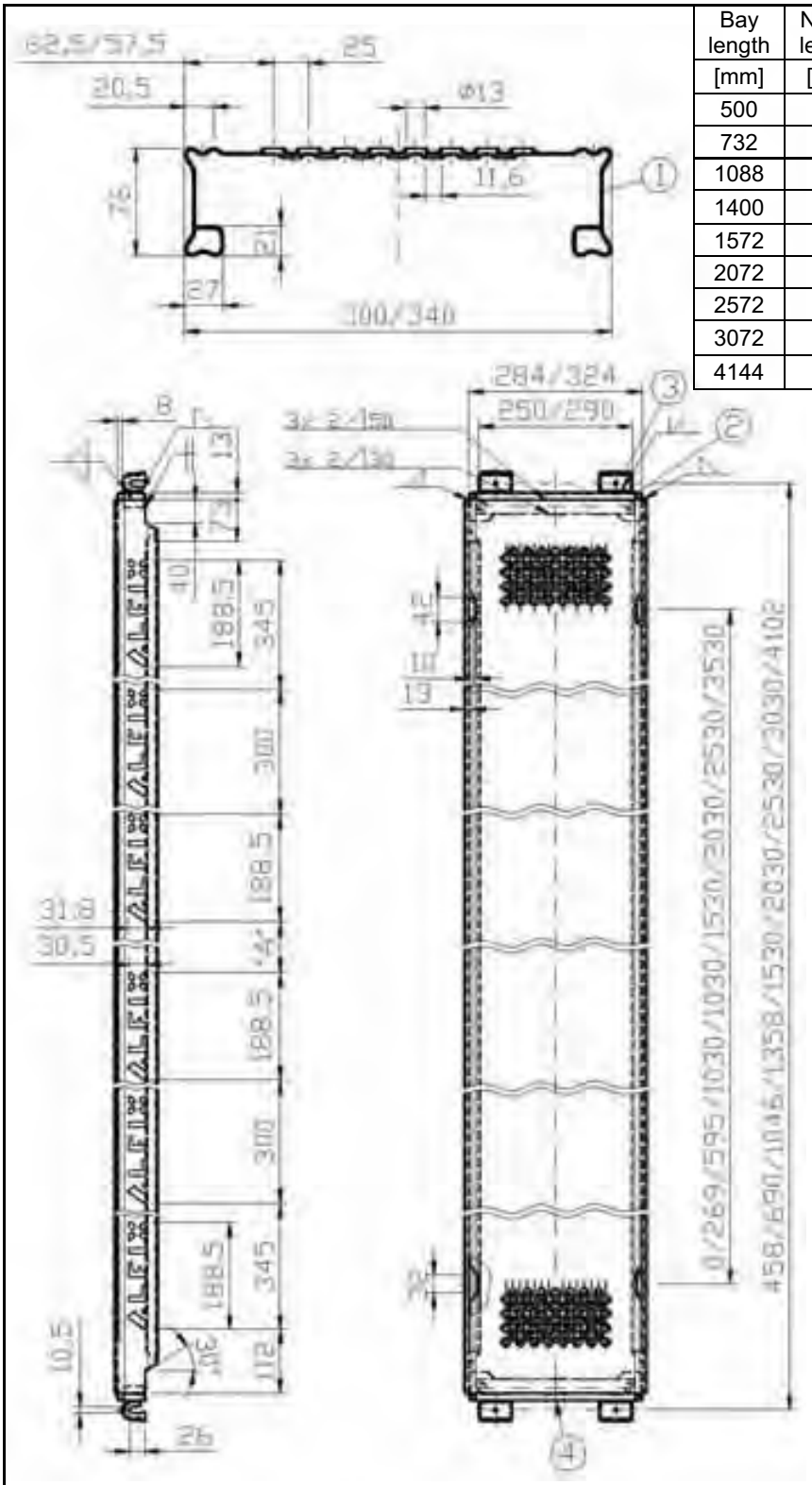
Steel deck

according to Z-8.1-862

Former design

Annex B, page 85 of
general national technical
approval Z-8.22-913
as of May 07, 2012
Deutsches Institut für Bautechnik

A705-A007_ABM



Bay length	Number of lettering(s)	Size “A“	Load class
[mm]	[left/right]	[mm]	
500	1/-	-	6
732	1/1	36	6
1088	1/1	392	6
1400	1/1	704	6
1572	1/1	876	6
2072	2/2	686	6
2572	2/2	1186	5
3072	3/3	1086	4
4144	3/3	2203	3

(1)	Bd 1.5mm	DIN EN 10111-DD11	ReH≥280N/mm^2	Rm≥360N/mm^2
	alternatively:	DIN EN 10025-2 S235JR	ReH≥280N/mm^2	Rm≥360N/mm^2
(2)	Bd 1.5mm	DIN EN 10111-DD11	ReH≥240N/mm^2	Rm≥360N/mm^2
(3)	Bd 4mm	DIN EN 10111-DD13	ReH≥240N/mm^2	Rm≥360N/mm^2
(4)	Marking			

galvanized; all welds a=2mm

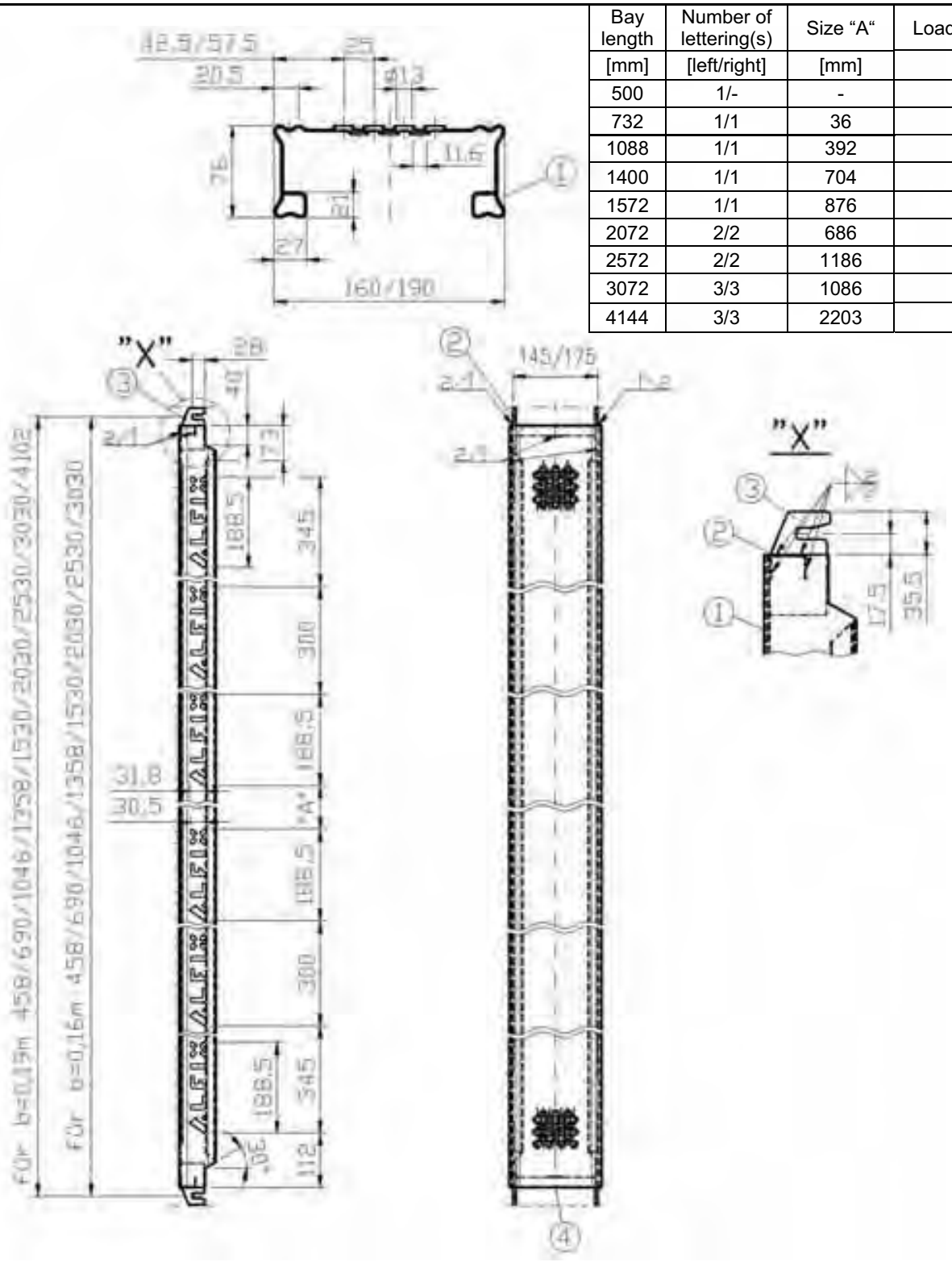
ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Steel plank AF 0.30m; 0.34m

according to Z-8.1-862

Bay length	Number of lettering(s)	Size “A“	Load class
[mm]	[left/right]	[mm]	
500	1/-	-	6
732	1/1	36	6
1088	1/1	392	6
1400	1/1	704	6
1572	1/1	876	6
2072	2/2	686	6
2572	2/2	1186	5
3072	3/3	1086	4
4144	3/3	2203	3



(1) Bd 1.5mm DIN EN 10111-DD11 ReH≥280N/mm² Rm≥360N/mm²
<u>alternatively:</u> DIN EN 10025-2 S235JR ReH≥280N/mm² Rm≥360N/mm²
(2) U 30x20x1.5 S235JR
(3) Fl 50x6 S235JR
(4) Marking

galvanized; all welds a=2mm

ALFIX GmbH
63828 Edelbach
09603 Großschirma

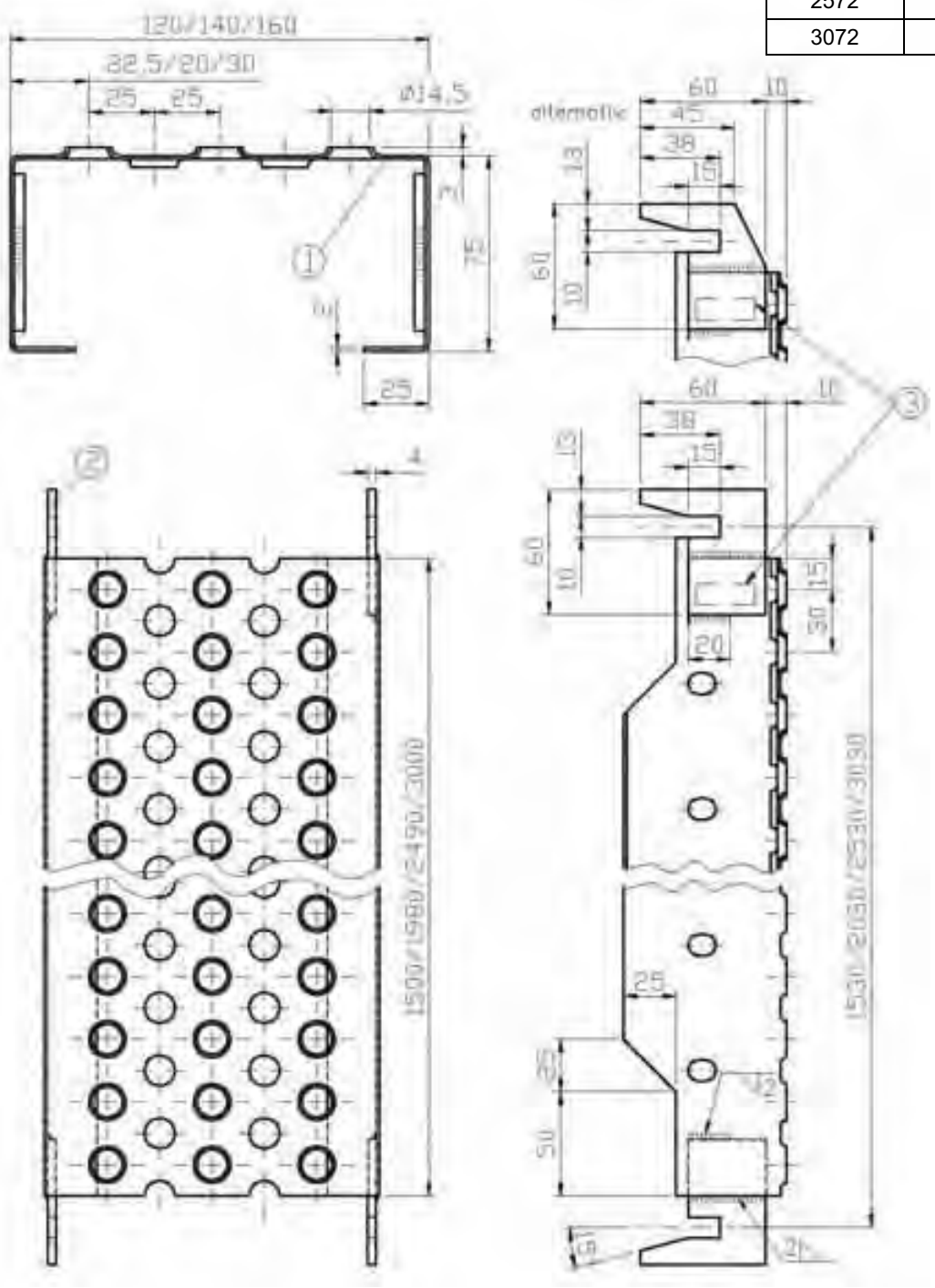
ALBLITZ MODUL

Intermediate deck AF

0.16m; 0.19m

according to Z-8.1-862

Bay length	Load class
[mm]	
1572	6
2072	6
2572	5
3072	4



(1) Profiled safety grating, 2mm round (Graepel) DIN EN 10025-2 S235JR
alternatively: DIN EN 10111-DD11 ReH≥240N/mm² Rm≥360N/mm²
(2) Bl 4x60x60 DIN EN 10025-2 S235JR
(3) Marking

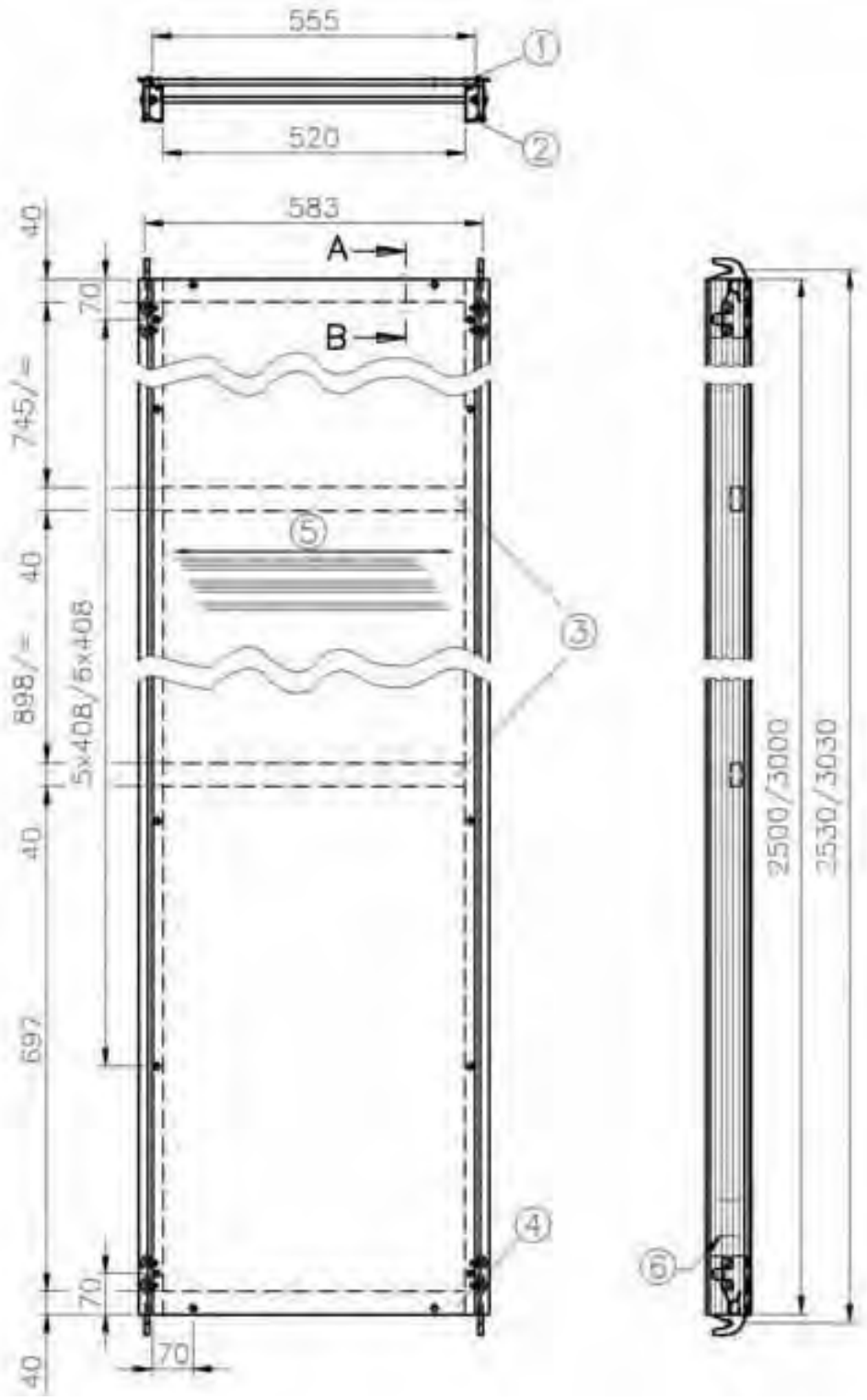
galvanized; all welds a=2mm

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Intermediate deck

according to Z-8.1-862



(1)	WISA Combi Mirror plywood 10x555 in acc. with Z-9.1-430	BFU 100-G
(2)	Brace profile 78x42	EN AW-6063-T66 (AlMgSi0.5F25)
(3)	RV 40x20x2	EN AW-6063-T66 (AlMgSi0.5F25)
(4)	Gripping profile	EN AW-6063-T66 (AlMgSi0.5F25)
(5)	Fibre direction	
(6)	Marking	

Details, see A705-A011

Load class 3

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Aluminium deck with plywood

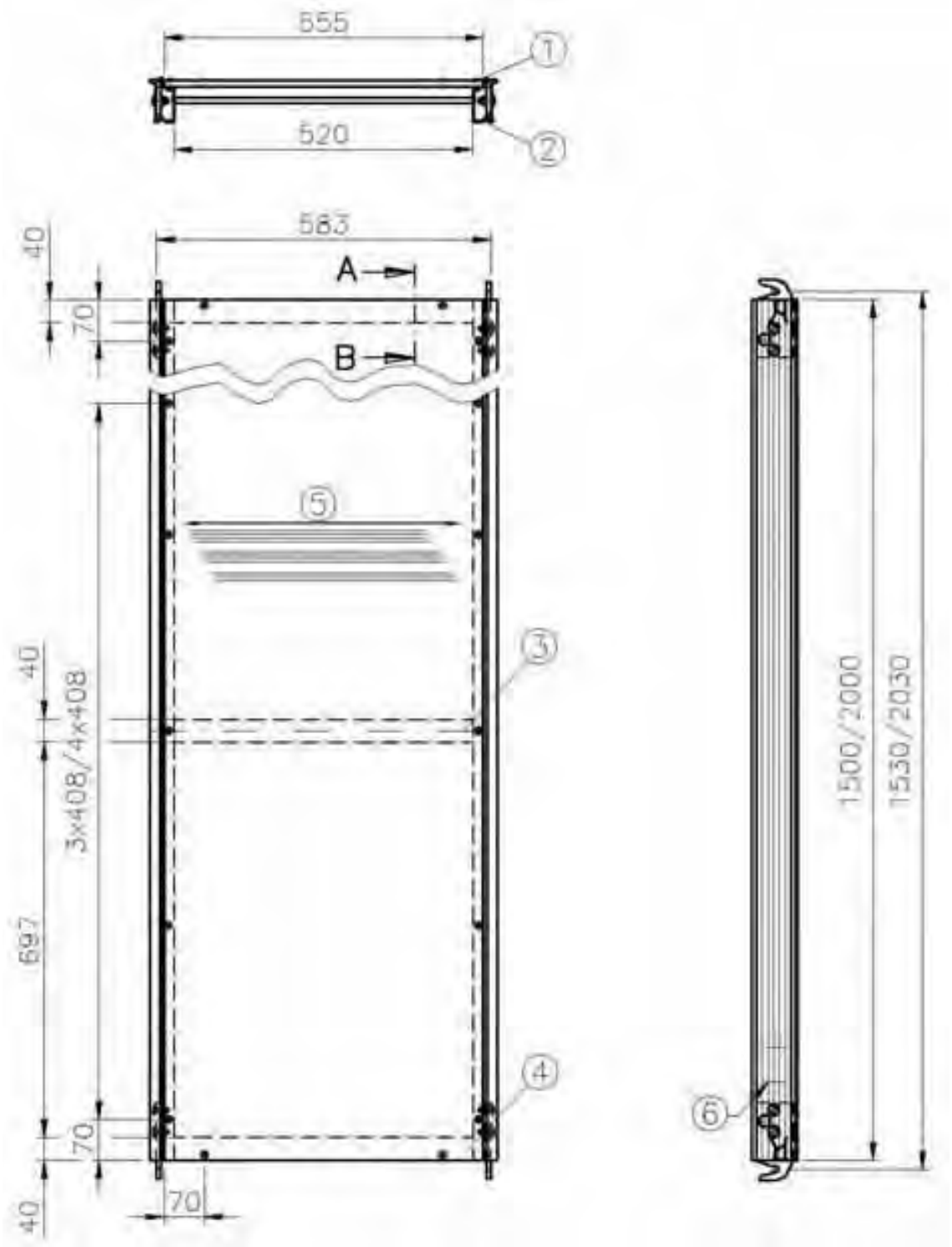
2.57m; 3.07m

according to Z-8.1-862

Former design

Annex B, page 89 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

A705-A009_ABM



(1)	WISA Combi Mirror plywood 10x555 in acc. with Z-9.1-430	BFU 100-G
(2)	Brace profile 78x42	EN AW-6063-T66 (AlMgSi0.5F25)
(3)	RHP 40x20x2	EN AW-6063-T66 (AlMgSi0.5F25)
(4)	Gripping profile	EN AW-6063-T66 (AlMgSi0.5F25)
(5)	Fibre direction	
(6)	Marking	

Details, see A705-A011

Load class 3

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Aluminium deck with plywood

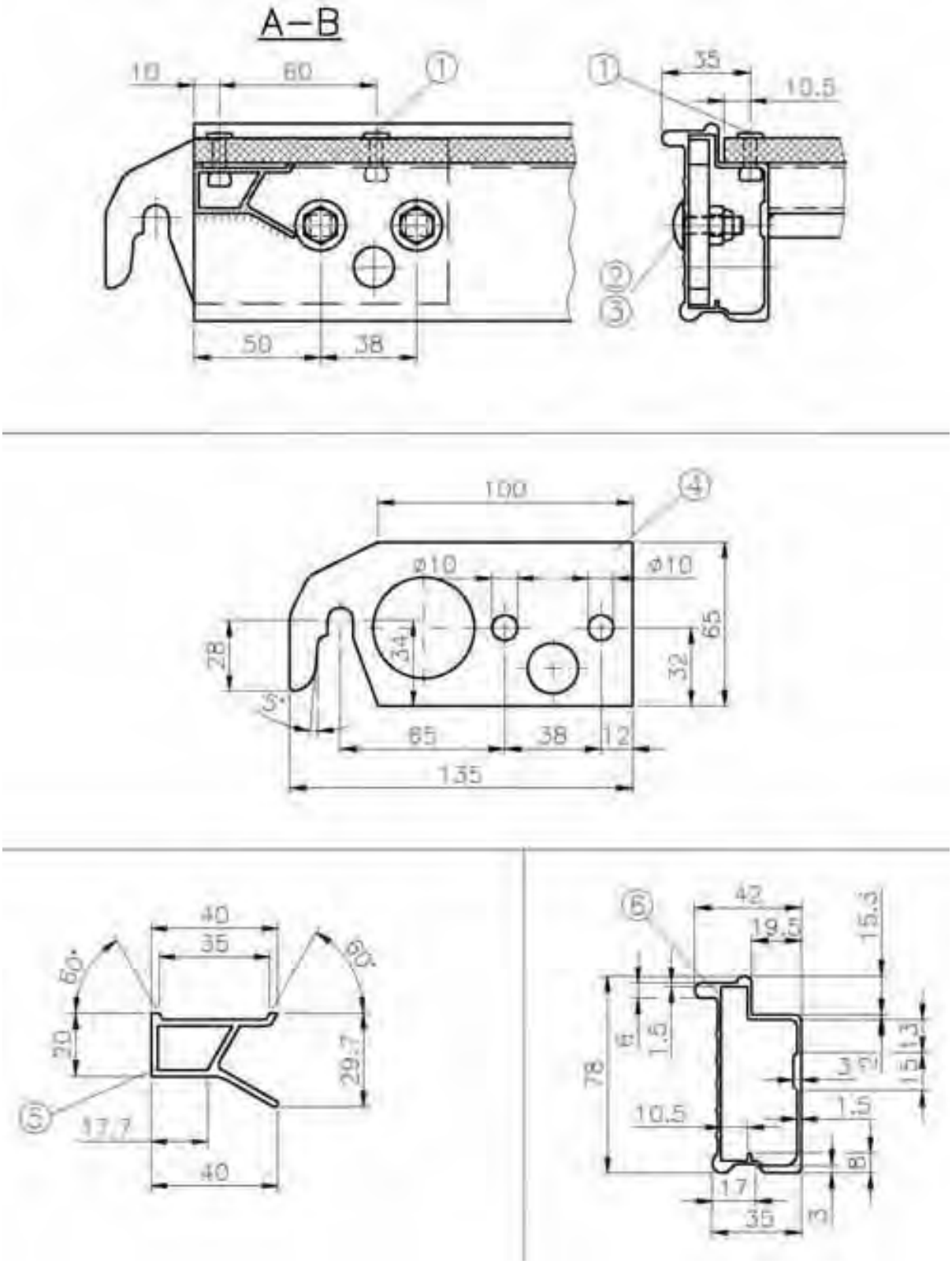
1.57m; 2.07m

according to Z-8.1-862

Former design

Annex B, page 90 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

A705-A010_ABM



(1)	Blind rivet Ø5x20		EN AW-5754 H112 (AlMg3)
(2)	Round-head bolt	M8x20 DIN 603	
(3)	Nut, self-locking	M8 DIN 980	
(4)	Mounting claw	Bl 8	S235JRG2 galvanized
(5)	Gripping profile; web thickness 2mm		EN AW-6063-T66 (AlMgSi0.5F25)
(6)	Aluminium brace profile		EN AW-6063-T66 (AlMgSi0.5F25)

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Details

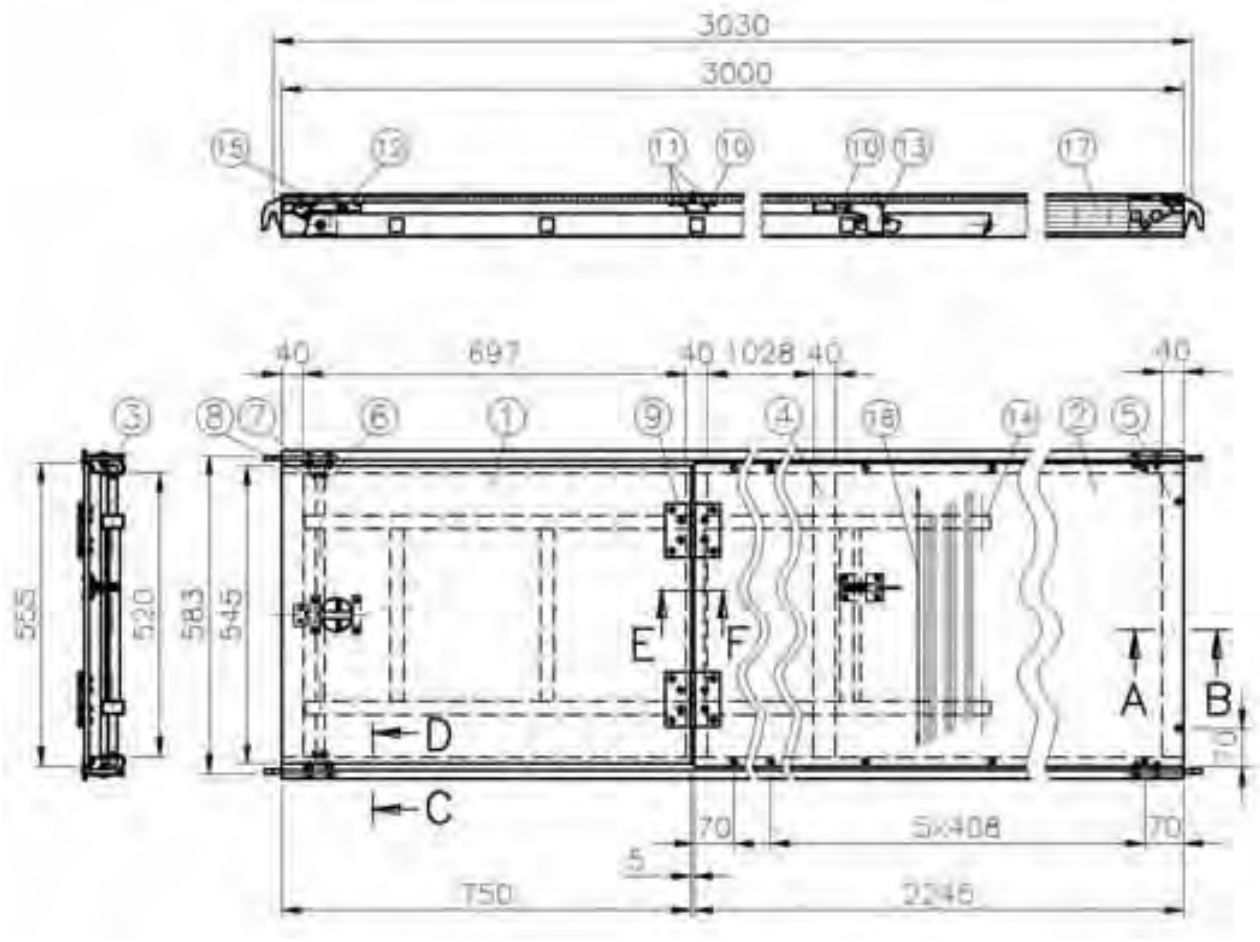
Aluminium deck

according to Z-8.1-862

Former design

Annex B, page 91 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

A705-A011_ABM



(1)	WISA Combi Mirror plywood 10x545 in acc. with Z-9.1-430	BFU 100-G
(2)	WISA Combi Mirror plywood 10x555 in acc. with Z-9.1-430	BFU 100-G
(3)	Brace profile 78x42	EN AW-6063-T66 (AlMgSi0.5F25)
(4)	RV 40x20x2	EN AW-6063-T66 (AlMgSi0.5F25)
(5)	Gripping profile	EN AW-6063-T66 (AlMgSi0.5F25)
(6)	Tube Ø15x2	S235JRH
(7)	Disc Ø17	DIN 125
(8)	Cotter pin Ø4x25	DIN 94
(9)	Hinge 100x100x1.6	
(10)	Blind rivet Ø5x20	EN AW-5754 H112 (AlMg3)
(11)	Blind rivet Ø4.8x18	EN AW-5754 H112 (AlMg3)
(12)	Blind rivet Ø4.8x16	EN AW-5754 H112 (AlMg3)
(13)	Ladder holder	
(14)	Ladder,	see A709-A115
(15)	Ledger	
(16)	Fibre direction	
(17)	Marking	

Details, see A705-A011 and A705-014

Load class 3

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

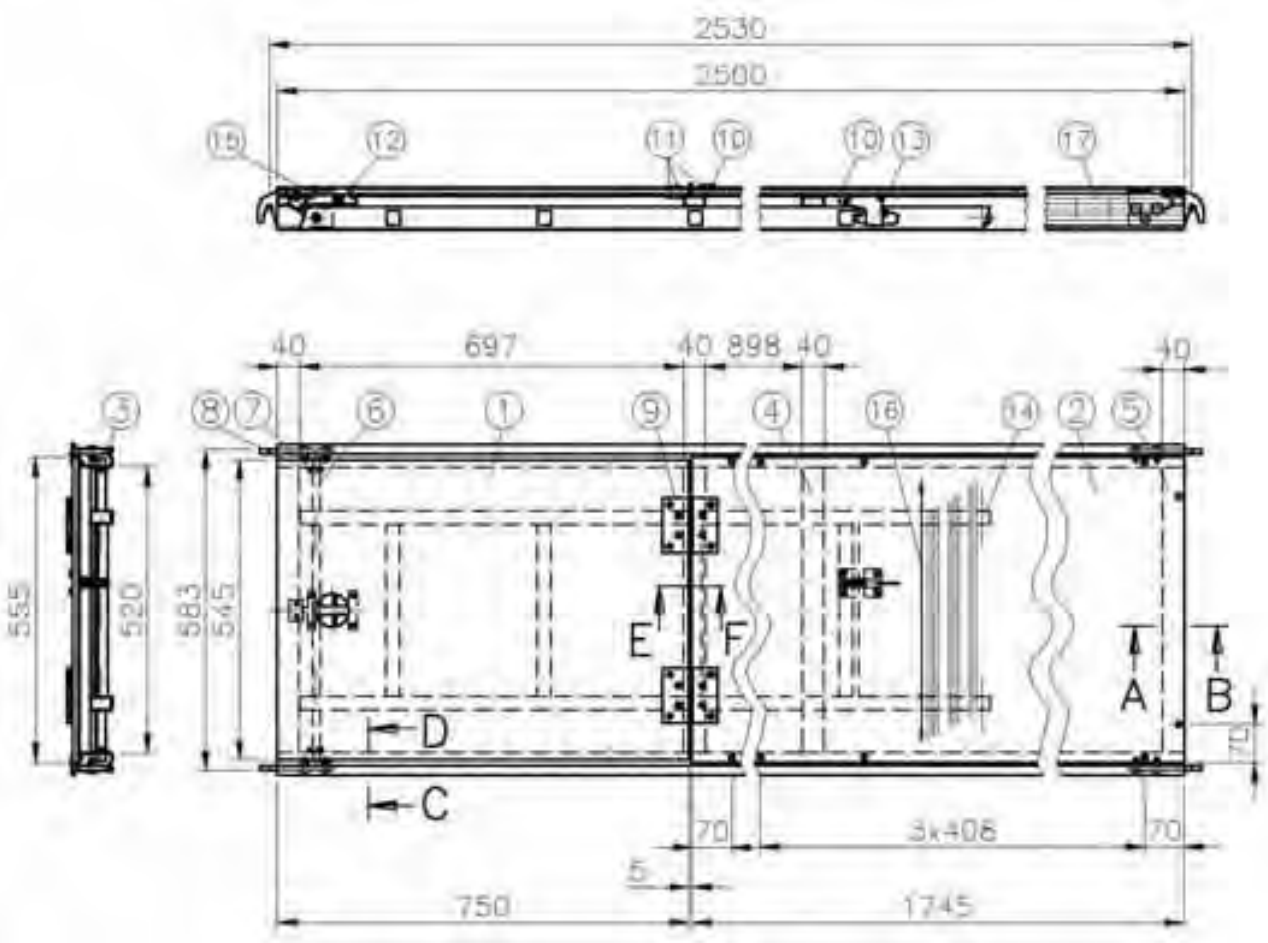
Aluminium hatch-type access deck 3.07m with ladder

according to Z-8.1-862

Former design

Annex B, page 92 to the national technical approval Z-8.22-913 of 7. May 2012 Deutsches Institut für Bautechnik

A705-A012_ABM



(1)	WISA Combi Mirror plywood 10x545 in acc. with Z-9.1-430	BFU 100-G
(2)	WISA Combi Mirror plywood 10x555 in acc. with Z-9.1-430	BFU 100-G
(3)	Brace profile 78x42	EN AW-6063-T66 (AlMgSi0.5F25)
(4)	RV 40x20x2	EN AW-6063-T66 (AlMgSi0.5F25)
(5)	Gripping profile	EN AW-6063-T66 (AlMgSi0.5F25)
(6)	Tube Ø15x2	S235JRH
(7)	Disc Ø17	DIN 125
(8)	Cotter pin Ø4x25	DIN 94
(9)	Hinge 100x100x1.6	
(10)	Blind rivet Ø5x20	EN AW-5754 H112 (AlMg3)
(11)	Blind rivet Ø4.8x18	EN AW-5754 H112 (AlMg3)
(12)	Blind rivet Ø4.8x16	EN AW-5754 H112 (AlMg3)
(13)	Ladder holder	
(14)	Ladder,	see A7059-A115
(15)	Ledger	
(16)	Fibre direction	
(17)	Marking	

Details, see A705-A011 and A705-A014

Load class 3

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

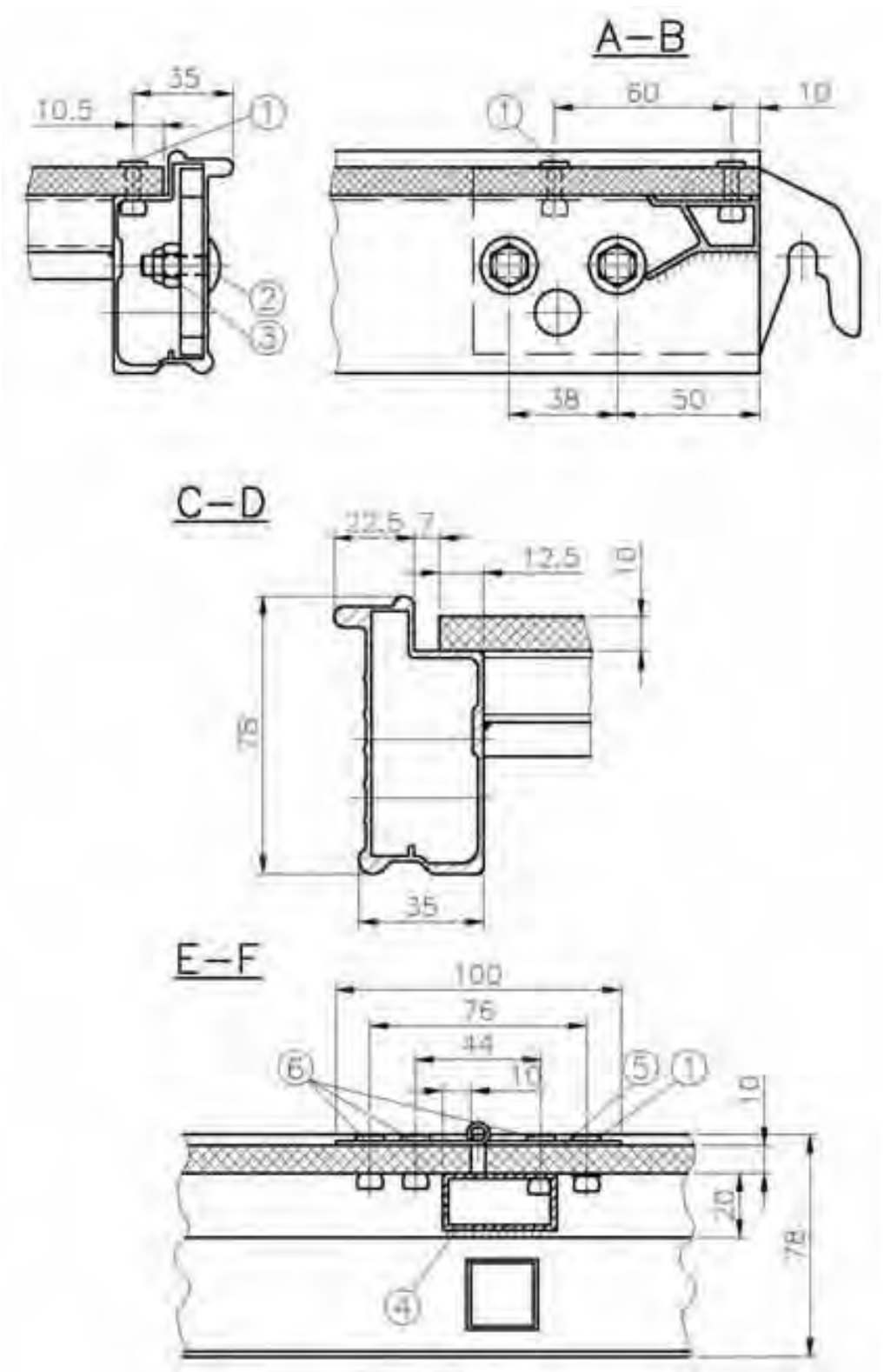
Aluminium hatch-type access deck 2.57m with ladder

according to Z-8.1-862

Former design

Annex B, page 93 to the national technical approval Z-8.22-913 of 7. May 2012 Deutsches Institut für Bautechnik

A705-A013_ABM



(1)	Blind rivet Ø5x20		EN AW-5754 H112 (AlMg3)
(2)	Round-head bolt	M8x20 DIN 603	
(3)	Nut, self-locking	M8 DIN 980	
(4)	Box 40x20x2		EN AW-6063-T66 (AlMgSi0.5F25)
(5)	Hinge 100x100x1.6		
(6)	Blind rivet Ø4.8x18		EN AW-5754 H112 (AlMg3)

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Sections

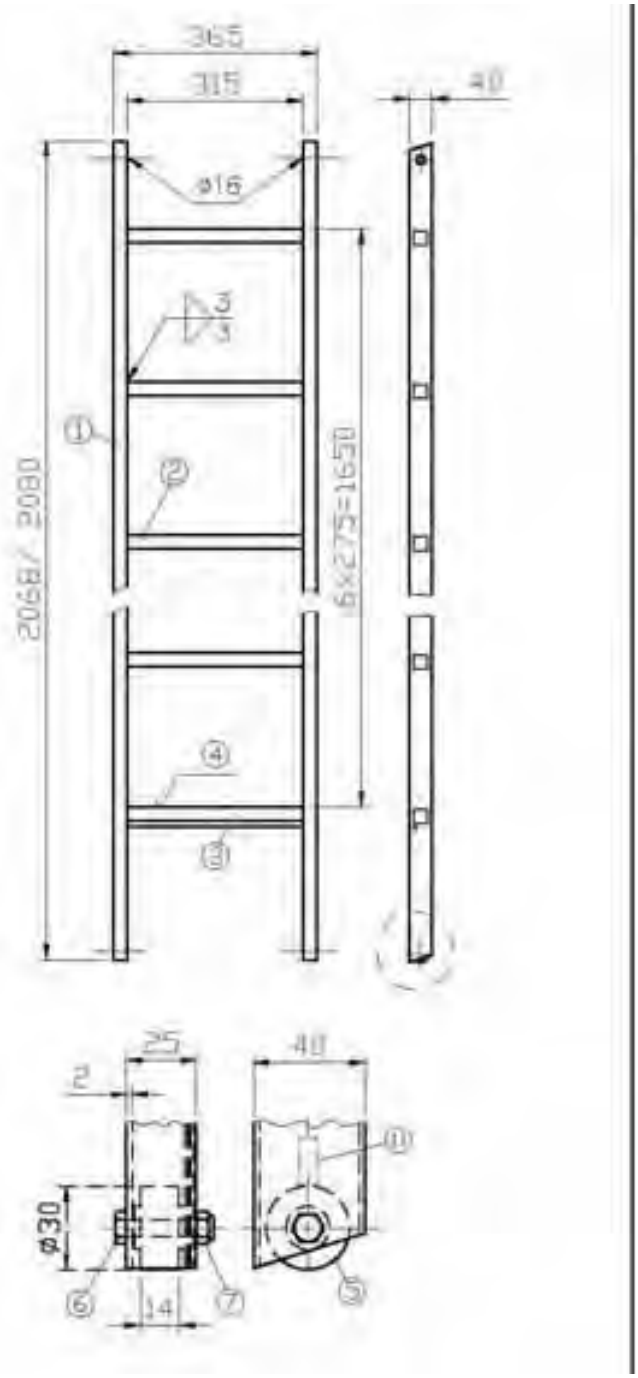
Aluminium hatch-type access deck

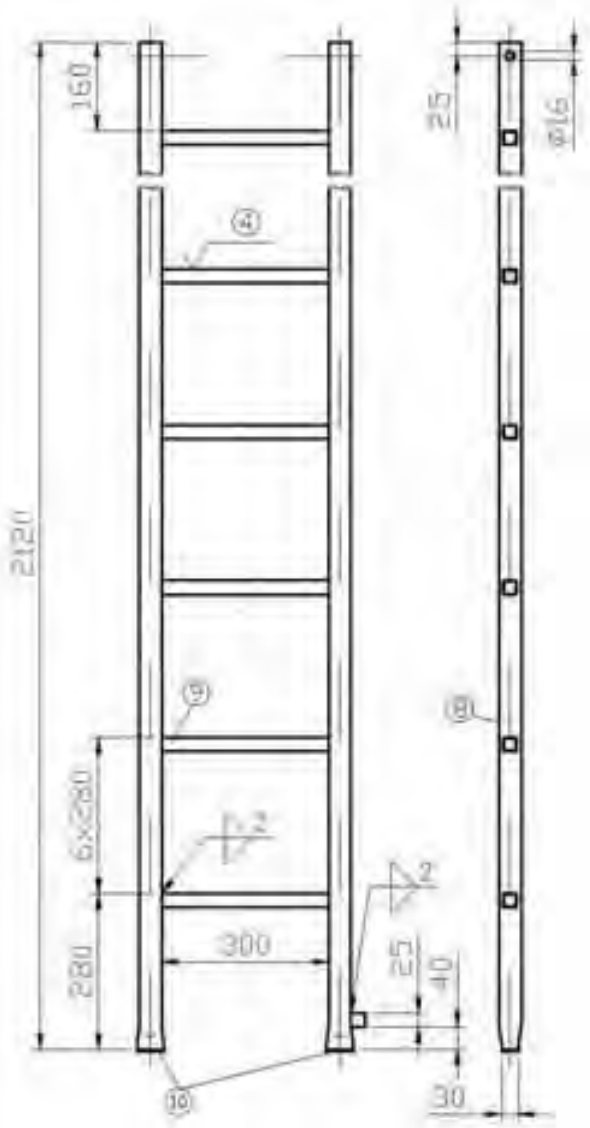
according to Z-8.1-862

Former design

Annex B, page 94 to the national technical approval Z-8.22-913 of 7. May 2012 Deutsches Institut für Bautechnik

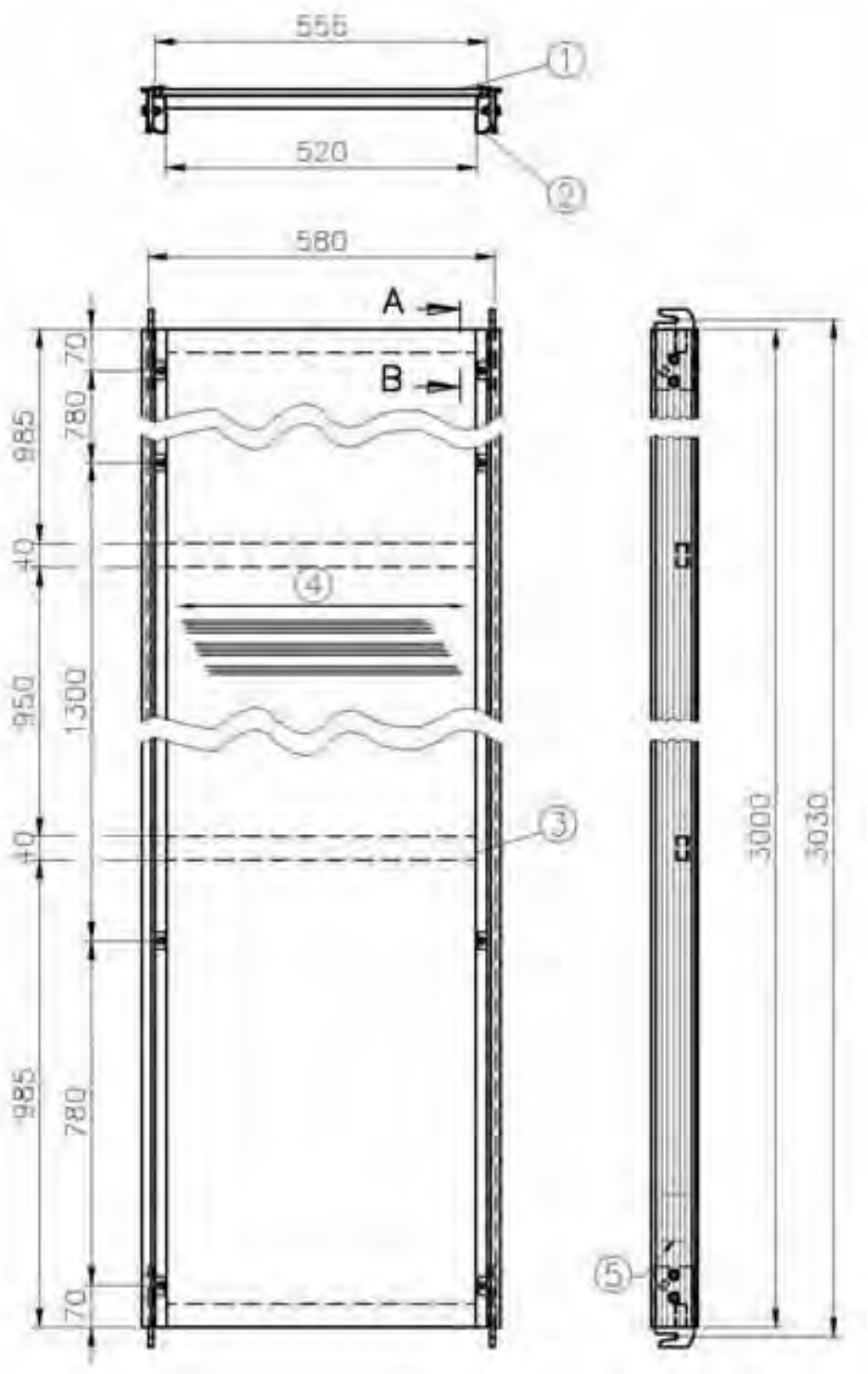
A705-A014_ABM





Former design
-for use only-

(1)	Brace profile 25x40x2	EN AW-6060-T66
(2)	Rung profile 25x25x1.5	EN AW-6060-T66
(3)	Interlocking rung profile 25x25x1.5	EN AW-6060-T66
(4)	Grooving	
(5)	Castor Rd 30x18	130PA/030/011/1/6
(6)	Hexagon screw M6x30-8.8-galvanized	DIN 931
(7)	Hexagon nut, self-locking M6-8-galvanized	DIN 985
(8)	Tube Ø40x2	AlMgSiF28
(9)	Rung profile 25x25x1.5	AlMgSiF28
(10)	Tube shoe PVC	
(11)	Marking	



(1) Screen-printed plywood 10x555 (BFU 100-10 DIN 68705 Bl.3) until '97
BFU 100G-10 DIN 68705 Bl.3
(2) Aluminium brace 78x42(35) Form A AlMgSi0.5F25
(3) K 40x20x2 AlMgSi0.5F25
(4) Fibre direction
(5) Marking

( ) = former design with marking: manufacturer's mark, year of manufacture, Z-8.1-310, Ü
Details, see A705-A018 Load class 3

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Aluminium deck with plywood

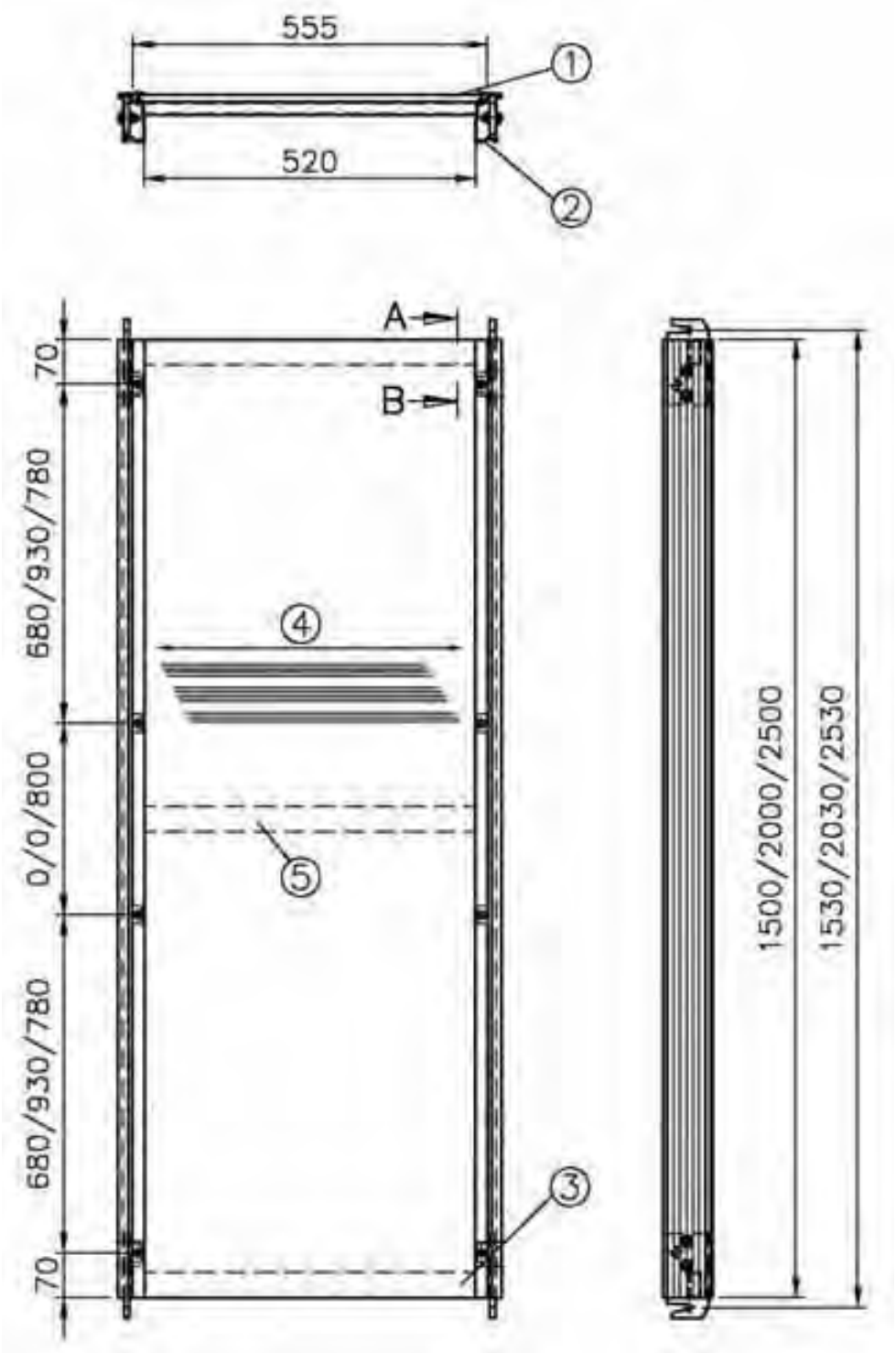
3.07m

according to Z-8.1-862

Production of component has been terminated
-for use only-

Annex B, page 96 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

A705-A016_ABM



(1) Screen-printed plywood 10x555 (BFU 100-10 DIN 68705 Bl.3) until '97
BFU 100G-10 DIN 68705 Bl.3
(2) Aluminium brace 78x42(35), Form A AlMgSi0.5F25
(3) K 40x20x2 AlMgSi0.5F25
(4) Fibre direction
(5) Bay length 2.5m only

( ) = former design with marking: manufacturer's mark, year of manufacture, Z-8.1-310, Ü
Details, see A705-A018 Load class 3

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Aluminium deck with plywood

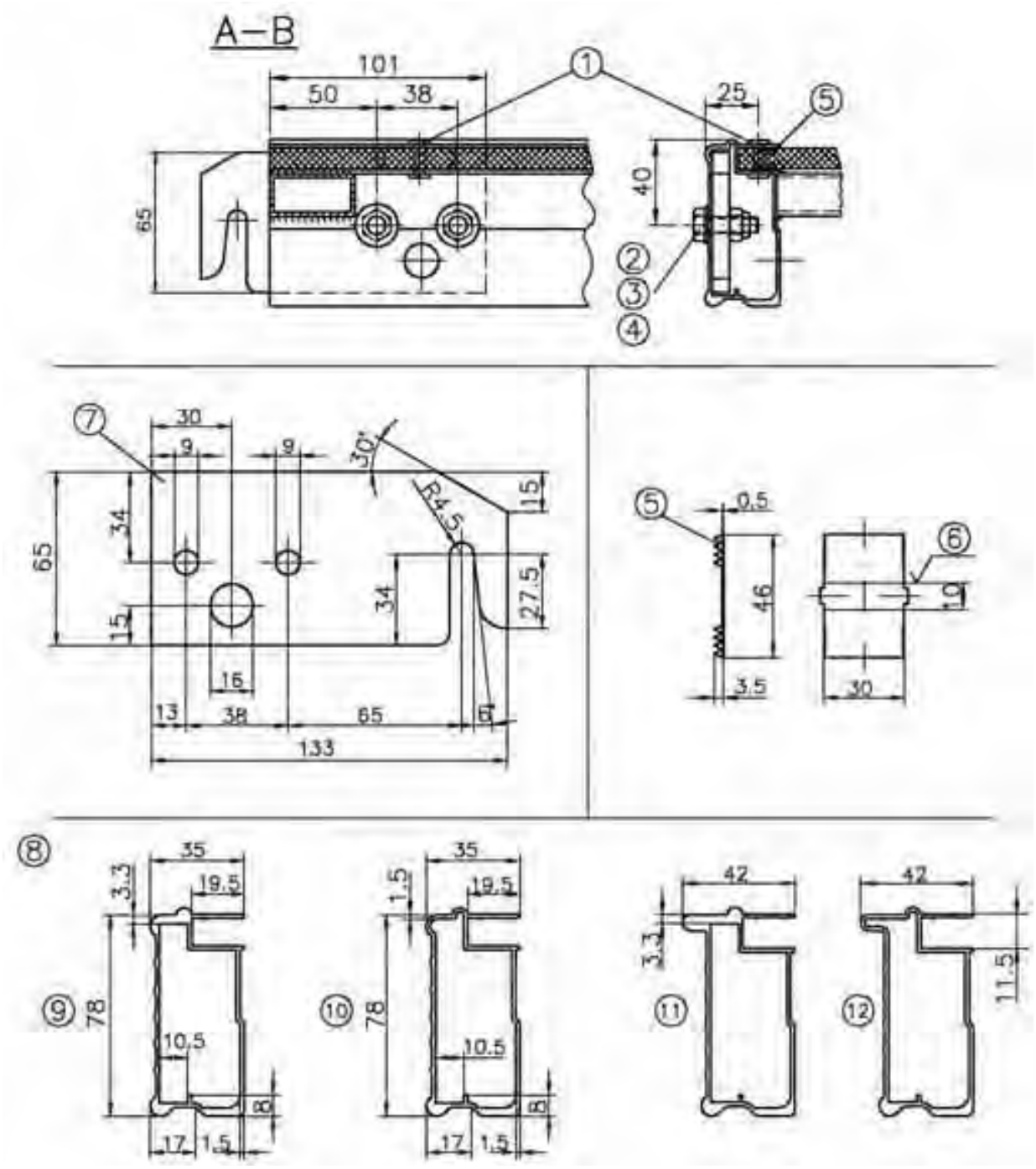
1.57m; 2.07m; 2.57m

according to Z-8.1-862

Production of component has been terminated
-for use only-

Annex B, page 97 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

A705-A017_ABM



(1)	Rivet Ø5x21	AlMg3	DIN 7337
(2)	Screw M8x25		DIN 933
(3)	Disc Ø8.4		DIN 125
(4)	Nut, self-locking M8		DIN 982
(5)	Cramp; Bl. t=0.5; from year of manufacture ‘92	S235JR	galvanized
(6)	Embossment for subsequent bending	EN AW-6063-T66	(AlMgSi0.5F25)
(7)	Mounting claw; Bl. t=8	S235JRG2	galvanized
(8)	Aluminium brace	AlMgSi0.5F25	
(9)	Form A (former design)		
(10)	Form B (former design)		
(11)	Form A from 01/95		
(12)	Form B from 01/95		

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Details

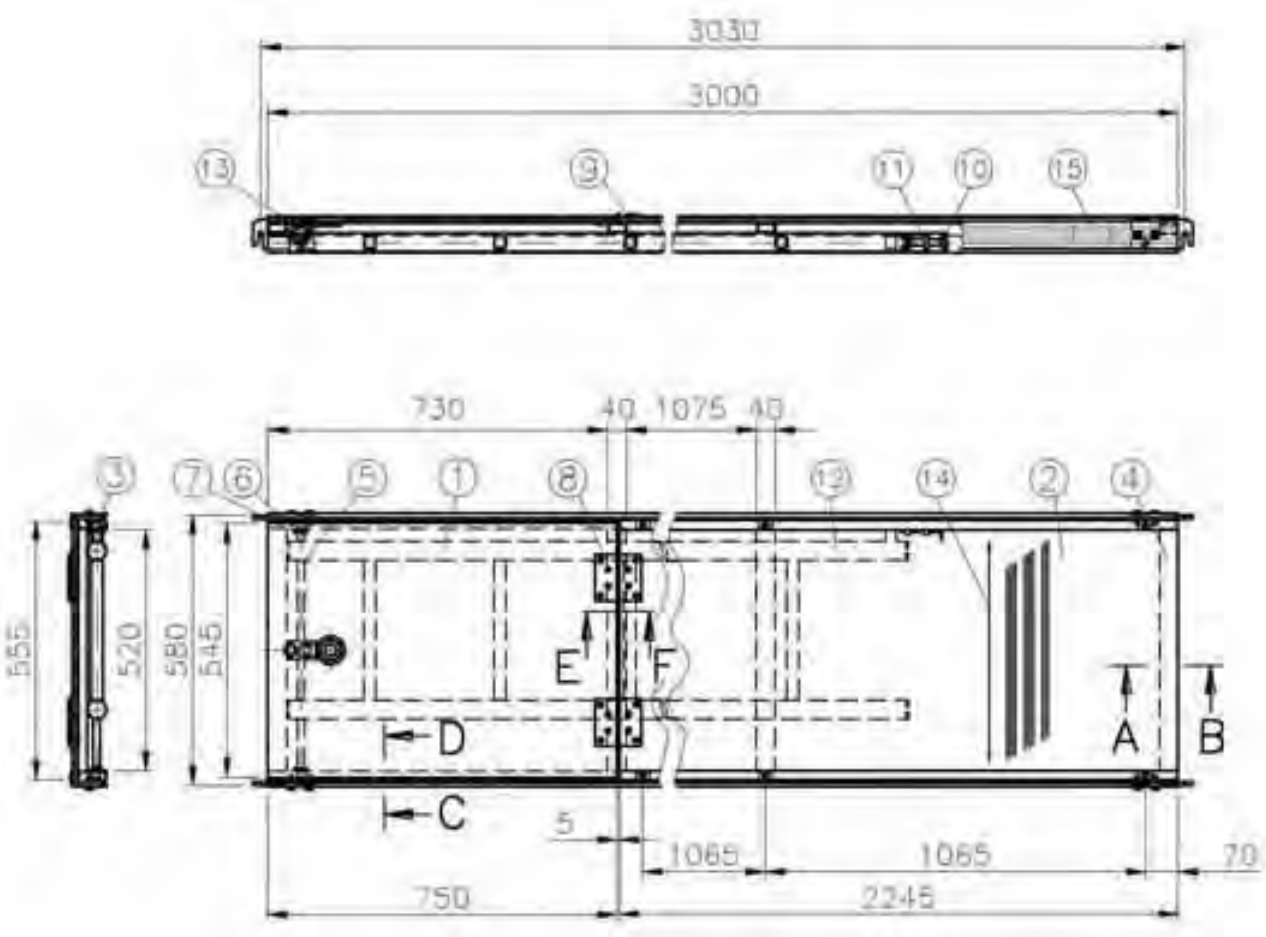
Aluminium deck

according to Z-8.1-862

Production of component has been terminated
-for use only-

Annex B, page 98 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

A705-A018_ABM



(1)	Screen-printed plywood 10x545	(BFU100-12 DIN 68705 Bl.3) until ‘97 BFU100G-12 DIN 68705 Bl. 3
(2)	Screen-printed plywood 10x555	(BFU100-10 DIN 68705 Bl. 3) until ‘97 BFU100G-10 DIN 68705 Bl. 3
(3)	Aluminium brace 78x42(35) /A	AlMgSi0.5F25
(4)	K 40x20x2	AlMgSi0.5F25
(5)	(Tube 15x1 Rd. Ø15	AlMgSi0.5F25) until ‘97 AlMgSi0.5F22
(6)	Disc Ø15	DIN 125
(7)	Cotter pin Ø4x32	DIN 94
(8)	Hinge 100x100x1.6	
(9)	Rivet Ø5x16	DIN 7337
(10)	Rivet Ø5x8	DIN 7337
(11)	Ledger 100mm	
(12)	Ladder,	see A709-A115
(13)	Ledger, cranked, with ring 100mm	
(14)	Fibre direction	
(15)	Marking	

( ) = former design with marking: manufacturer’s mark, year of manufacture, Z-8.1-310, Ü
Details, see A705-A018 and A705-A021 Load class 3

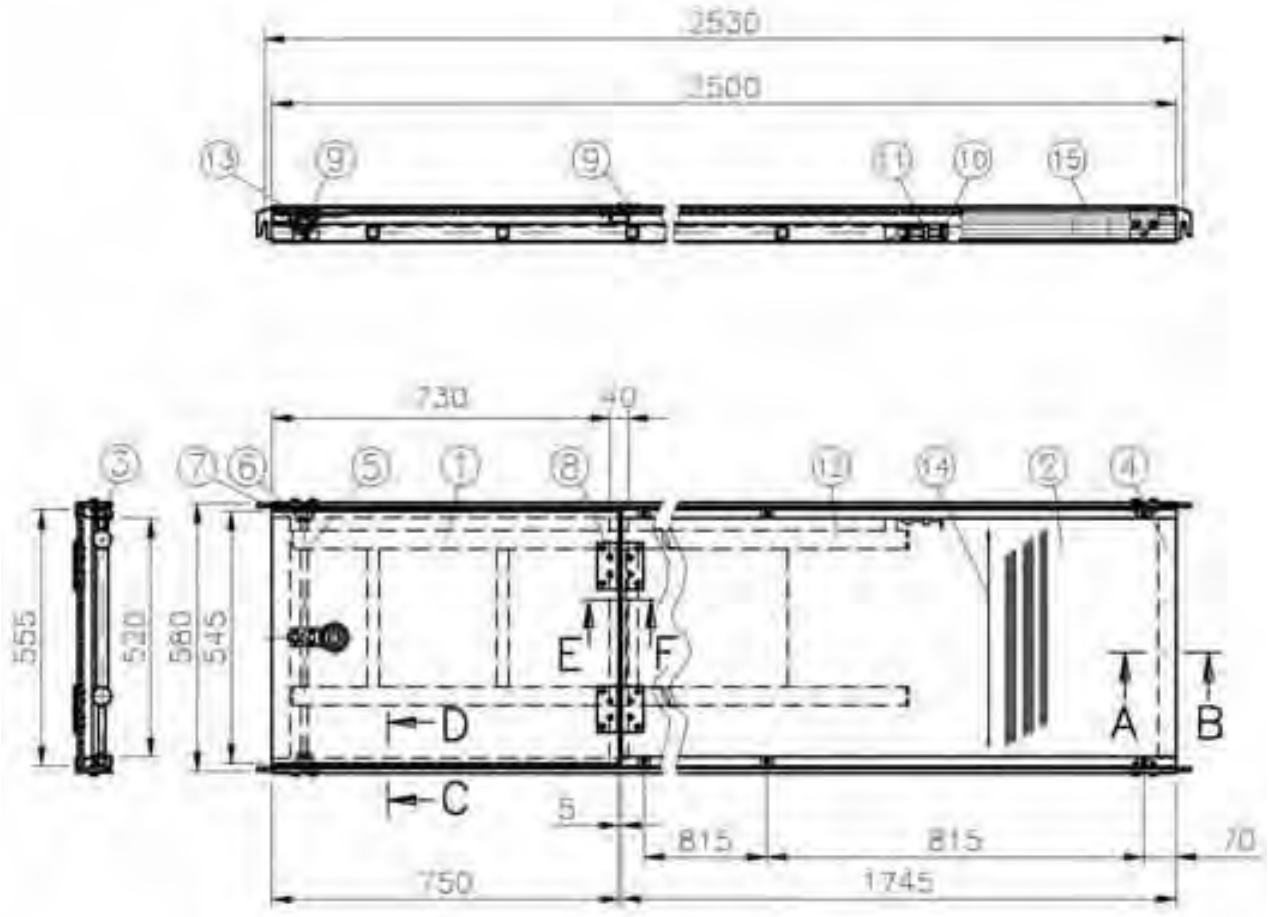
ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Aluminium hatch-type access deck 3.07m with ladder

according to Z-8.1-862

Production of component has been terminated
-for use only-
Annex B, page 99 of
general national technical
approval Z-8.22-913
as of May 07, 2012
Deutsches Institut für Bautechnik
A705-A019_ABM



(1)	Screen-printed plywood 10x545	(BFU100-12 DIN 68705 Bl.3) until ‘97 BFU100G-12 DIN 68705 Bl.3
(2)	Screen-printed plywood 10x555	(BFU100-10 DIN 68705 Bl.3) until ‘97 BFU100G-10 DIN 68705 Bl. 3
(3)	Aluminium brace 78x42(35) /A	AlMgSi0.5F25
(4)	K 40x20x2	AlMgSi0.5F25
(5)	(Tube 15x1 Rd. Ø15	AlMgSi0.5F25) until ‘97 AlMgSi0.5F22
(6)	Disc Ø15	DIN 125
(7)	Cotter pin Ø4x32	DIN 94
(8)	Hinge 100x100x1.6	
(9)	Rivet Ø5x16	DIN 7337
(10)	Rivet Ø5x8	DIN 7337
(11)	Ledger 100mm	
(12)	Ladder,	see A709-A115
(13)	Ledger, cranked, with ring 100mm	
(14)	Fibre direction	
(15)	Marking	

( ) = former design with marking: manufacturer’s mark, year of manufacture, Z-8.1-310, Ü
Details, see A705-A08 and A705-A021 Load class 3

ALFIX GmbH
63828 Edelbach
09603 Großschirma

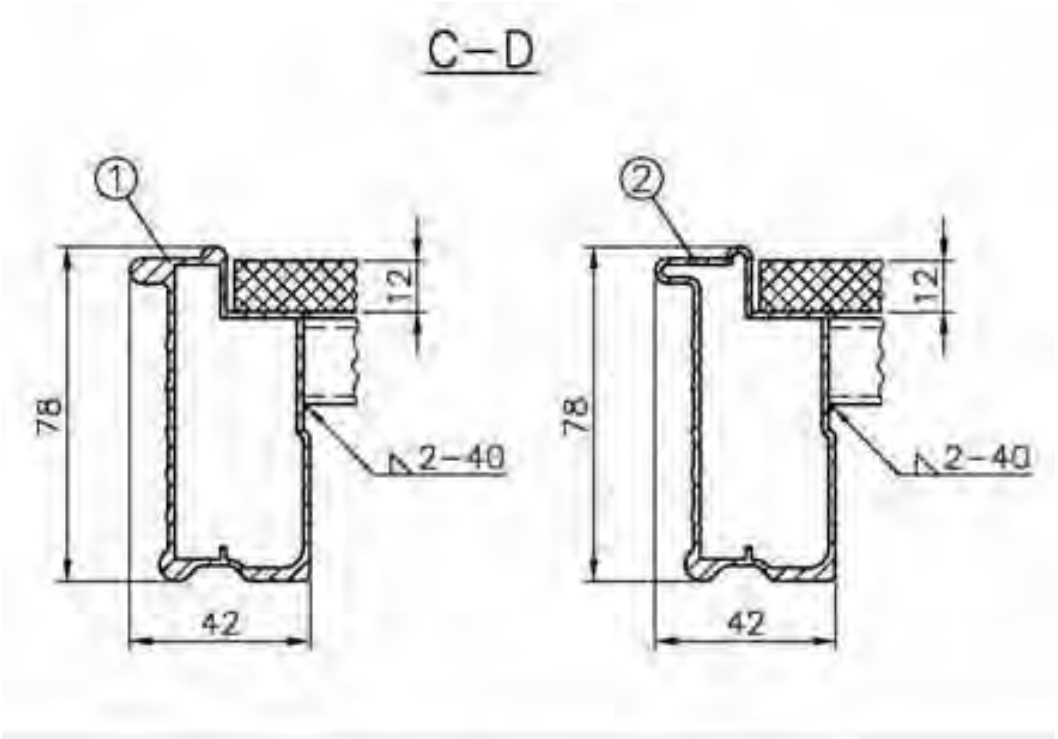
ALBLITZ MODUL

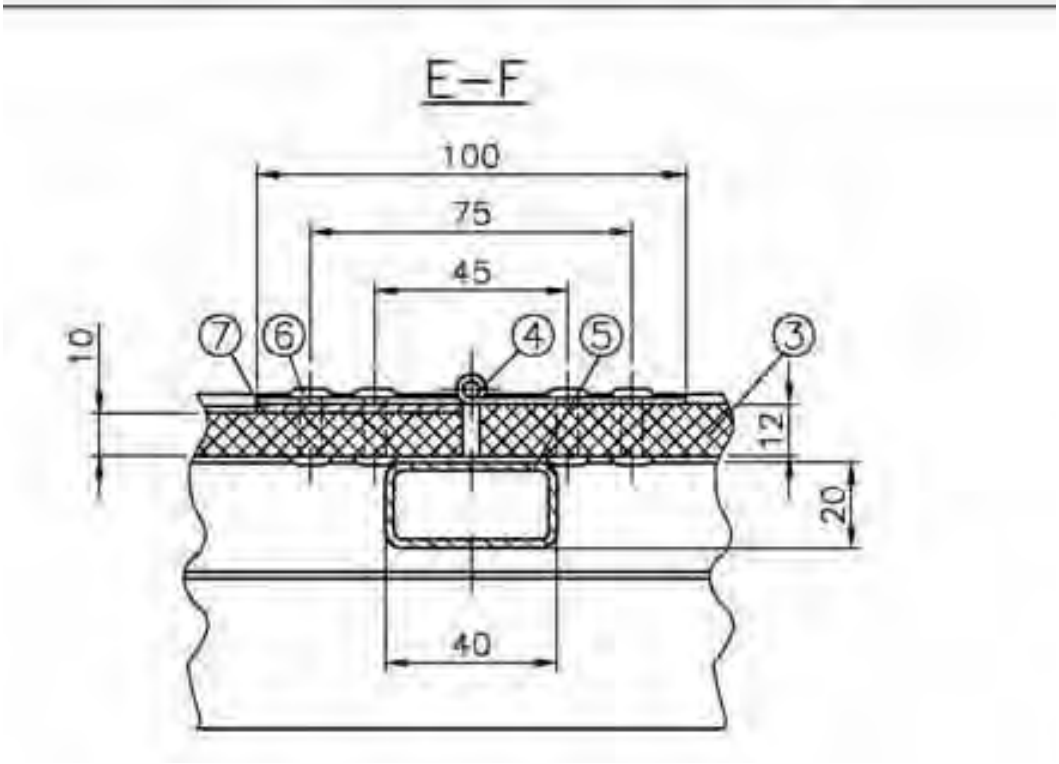
Aluminium hatch-type access

2.57m with Ladder

according to Z-8.1-862

Production of component has been terminated
-for use only-
Annex B, page 100 of
general national technical
approval Z-8.22-913
as of May 07, 2012
Deutsches Institut für Bautechnik
A705-A020_ABM





(1) Form A
(2) Form B
(3) Hatch
(4) Hinge 100x100x1.6
(5) K 40x20x2 AlMgSi0.5F25
(6) Aluminium blind rivet DIN 7340
(7) Thickness levelling

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Sections

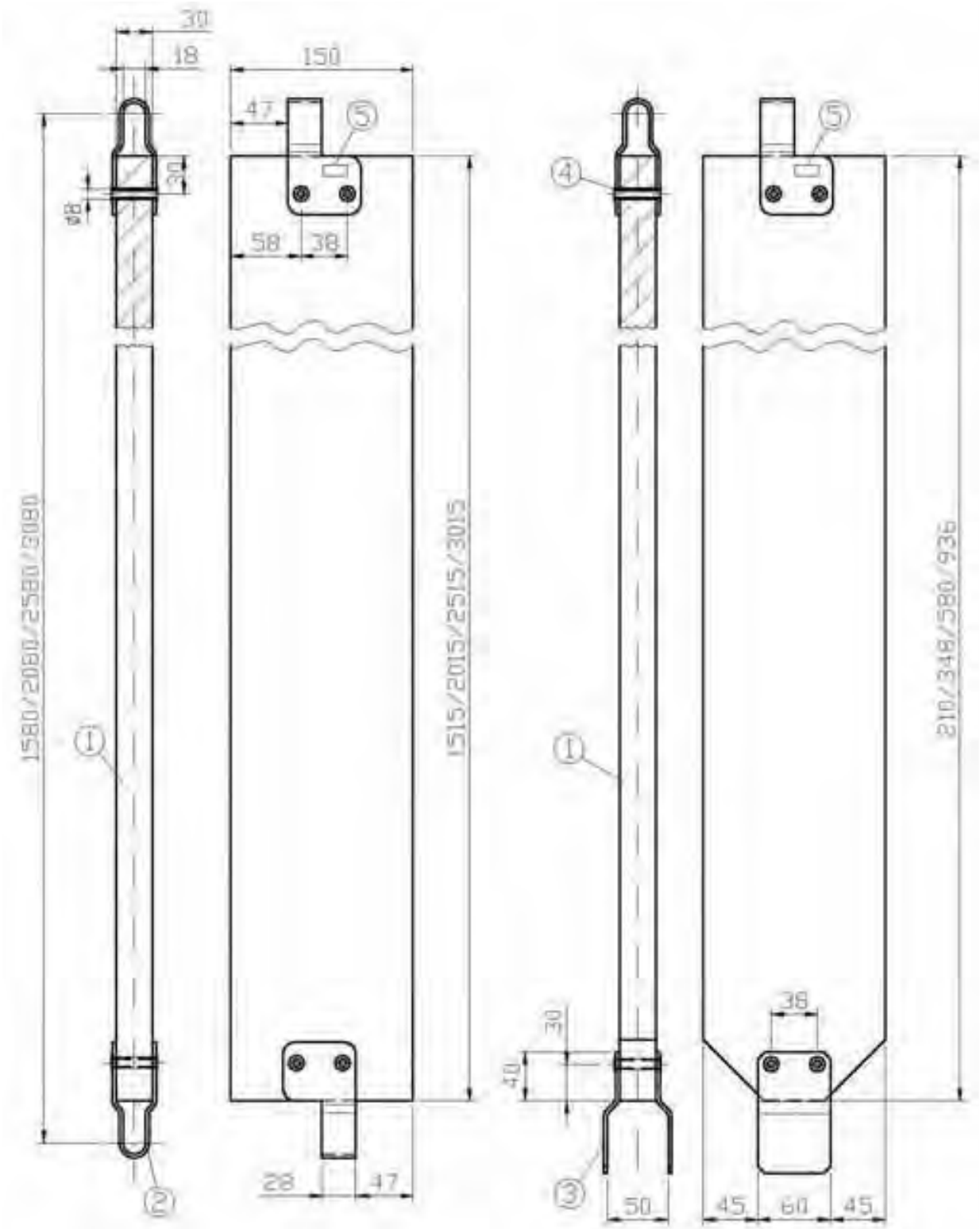
Aluminium hatch-type access deck

according to Z-8.1-862

Production of component has been terminated
-for use only-

Annex B, page 101 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

A705-A021_ABM



(1) Softwood quality class S10
(2) Slit strip 60x3 — DIN EN 10111-DD11 galvanized
(3) Slit strip 60x3 — DIN EN 10111-DD11 galvanized
(4) Tube rivet — DIN 7340 – A8x0.75x39-steel, zinc-plated
(5) Marking

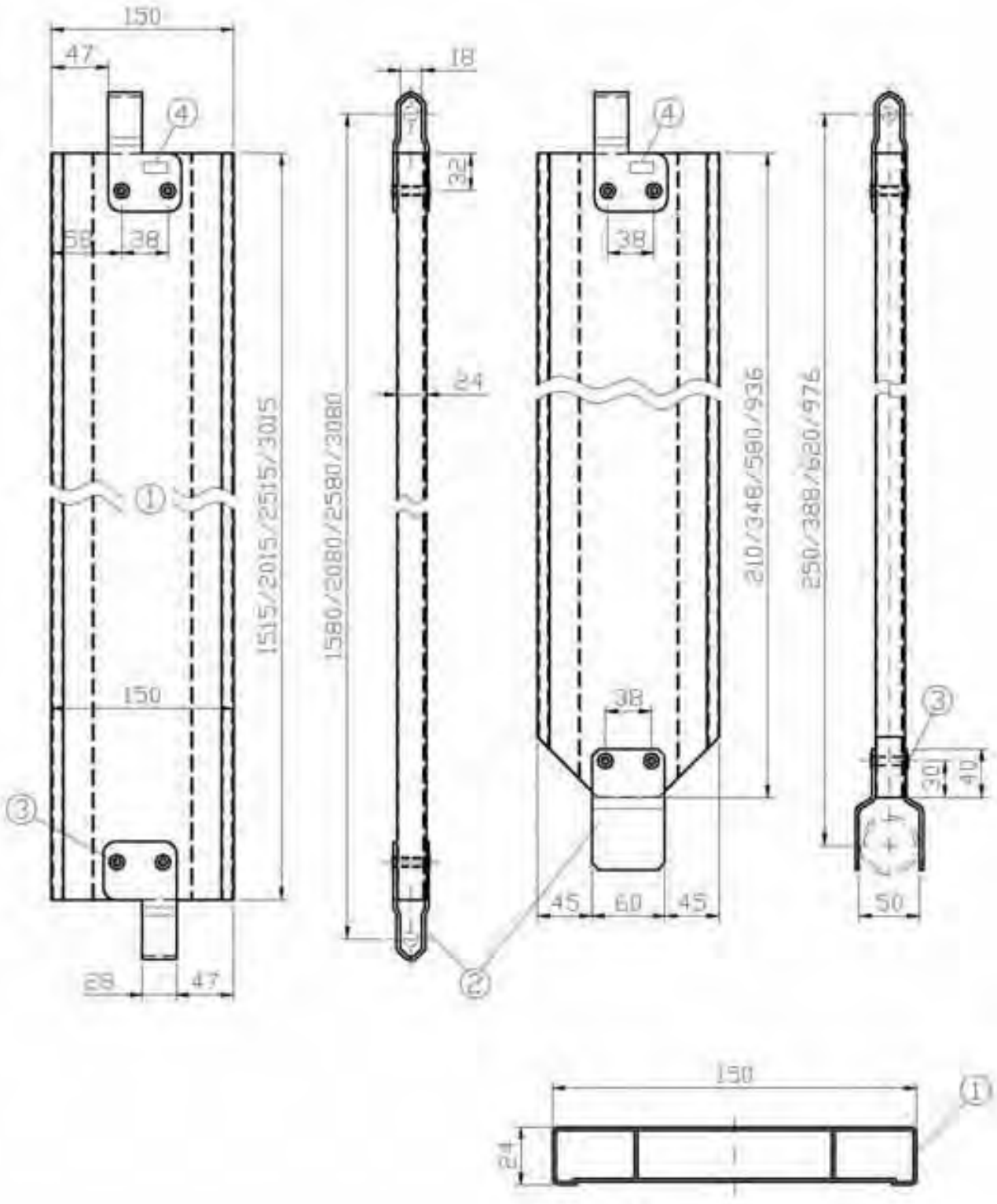
ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Toeboard

End toeboard

according to Z-8.1-862



(1) Aluminium toeboard profile; s=1.25mm — EN AW-6063-T66
(2) Slit strip 60x3 — DIN EN 10111-DD11 galvanized
(3) Tube rivet — DIN 7340 – A8x0.75x32-steel, zinc-plated
(4) Marking

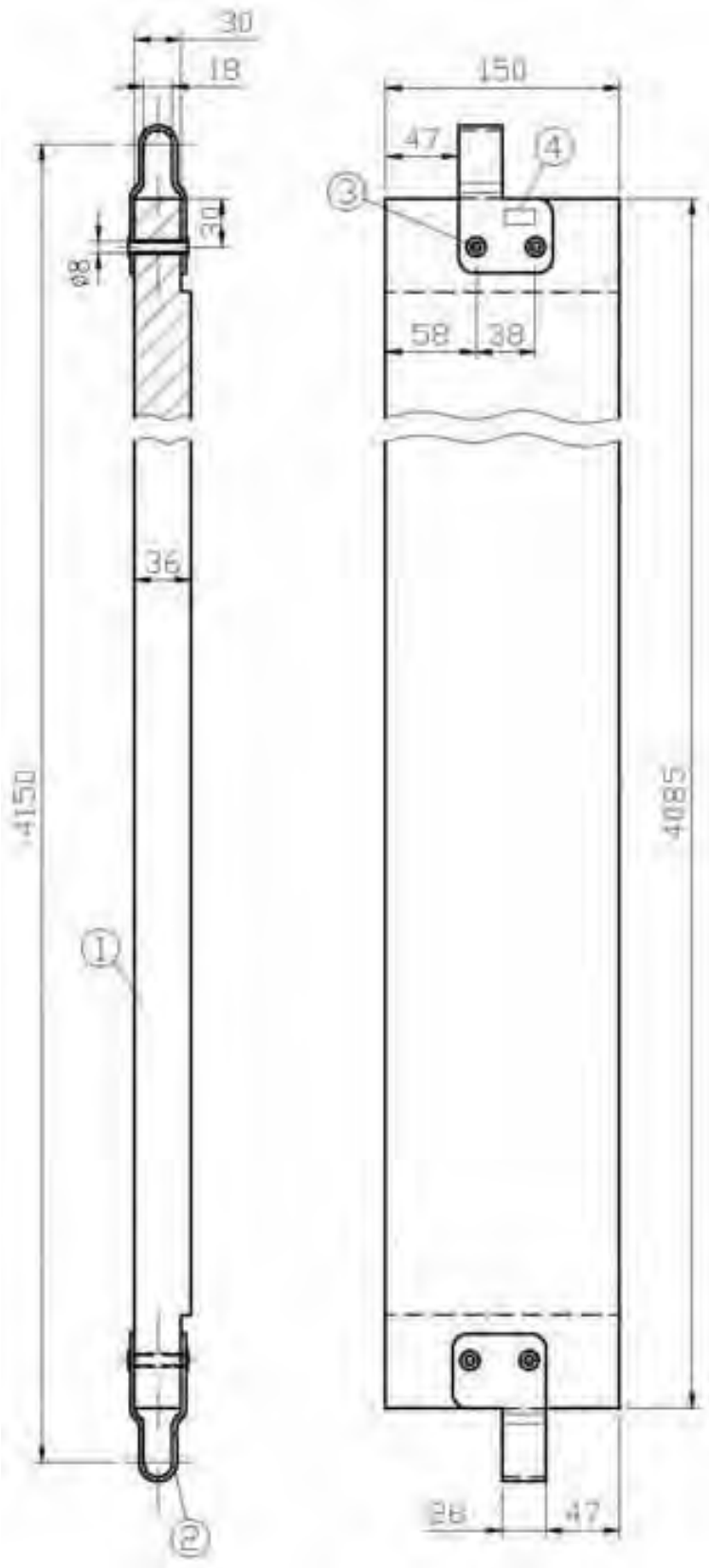
ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Aluminium toeboard

Aluminium end toeboard

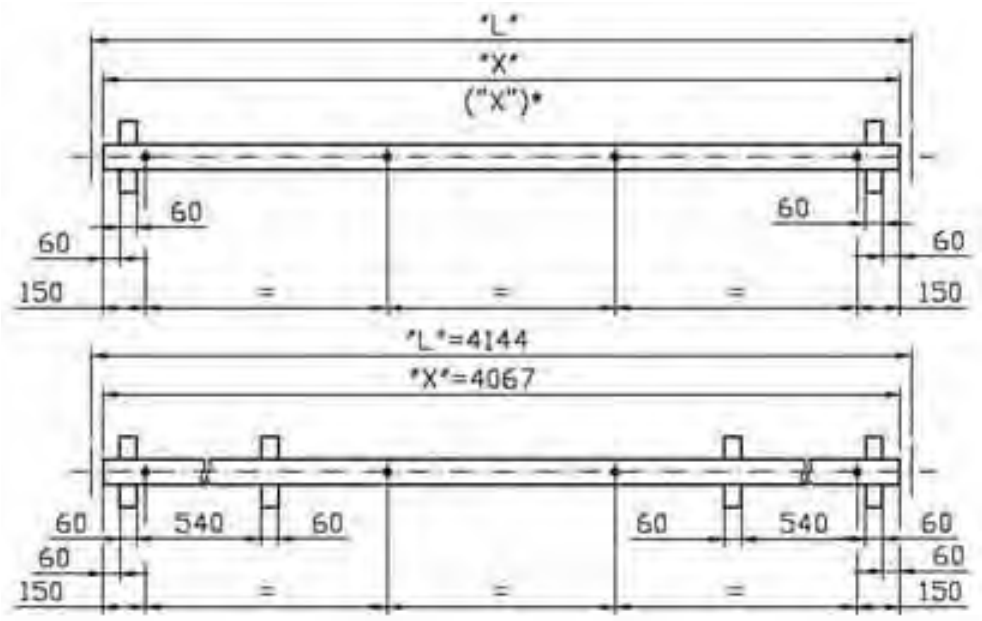
according to Z-8.1-862



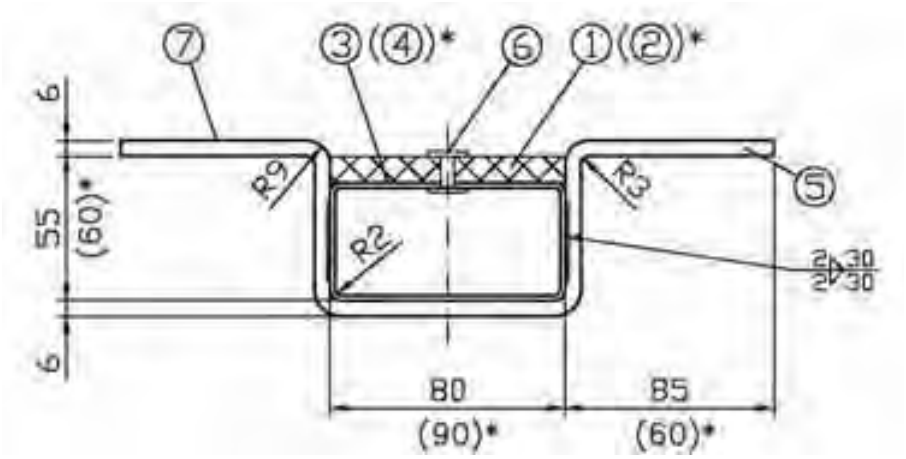
(1) Softwood quality class S10
(2) Slit strip 60x3 — DIN EN 10111-DD11 galvanized
(3) Tube rivet — DIN 7340 –A8x0.75x39-steel, zinc-plated
(4) Marking

ALFIX GmbH 63828 Edelbach 09603 Großschirma	**ALBLITZ MODUL** **Wooden toeboard 4.14m** according to Z-8.1-862	Annex B, page 104 to the national technical approval Z-8.22-913 of 7. May 2012 Deutsches Institut für Bautechnik A709-A169_ABM

Bay length "L"	Length "X"	Length ("X")*	Load class
[mm]			
1572	1495	1500	6
2072	1995	2000	6
2572	2495	2500	5
3072	2995	3000	4
4144	4067	-	3



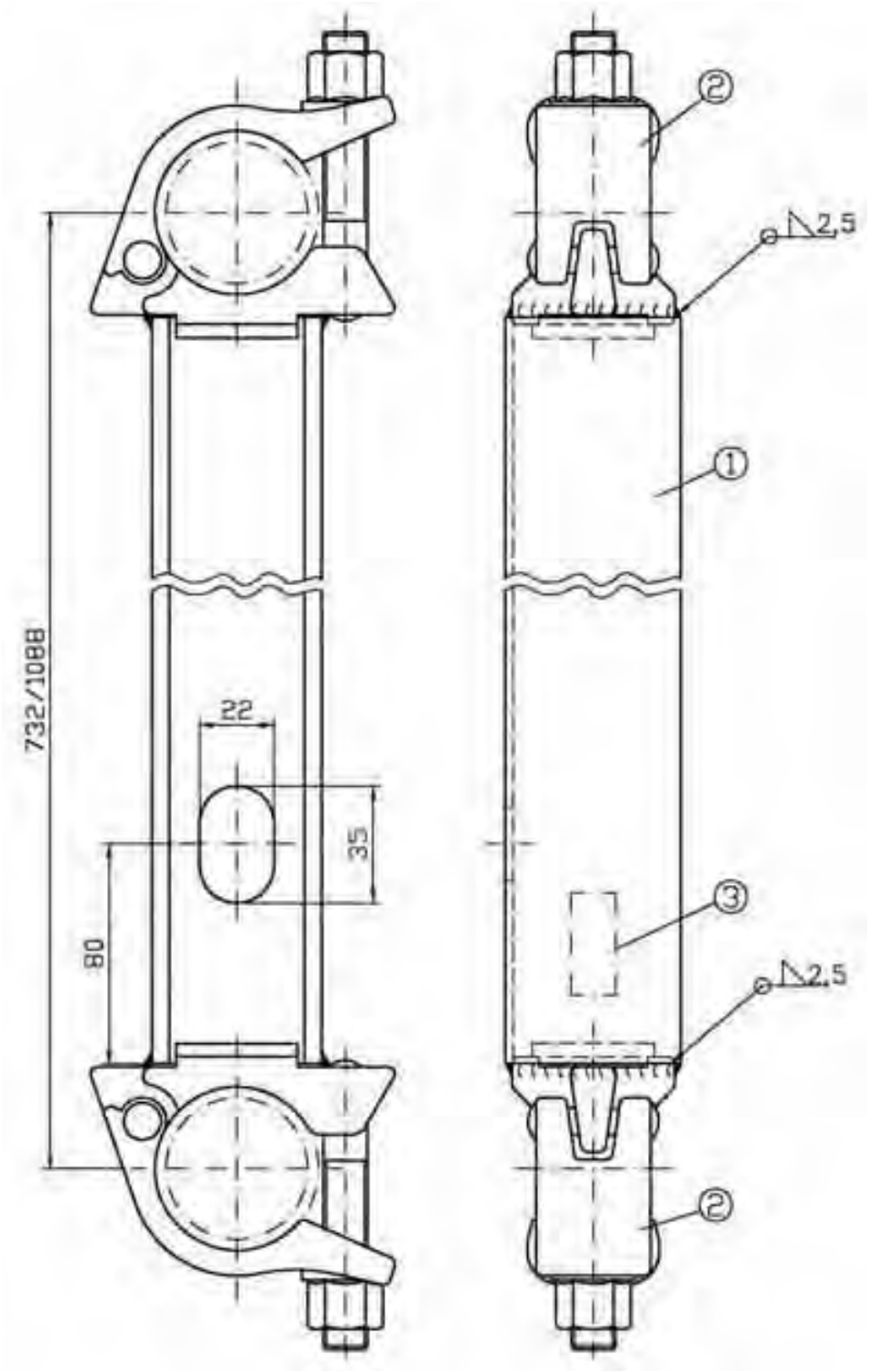
Cross-section



(1)	Screen-printed plywood 10x80	BFU 100G-10	DIN 68705 Bl.3
((2)	Screen-printed plywood 10x90	BFU 100G-10	DIN 68705 Bl.3)*
(3)	Rectangular hollow section 80x40x2	S235JRH	
((4)	Rectangular hollow section 90x45x1	S235JRH	DIN 59411)*
(5)	Bl 60x6	S235JRG2	
(6)	Rivet Ø5x20	AlMg3	DIN 7337
(7)	Marking		

( ) * alternatively

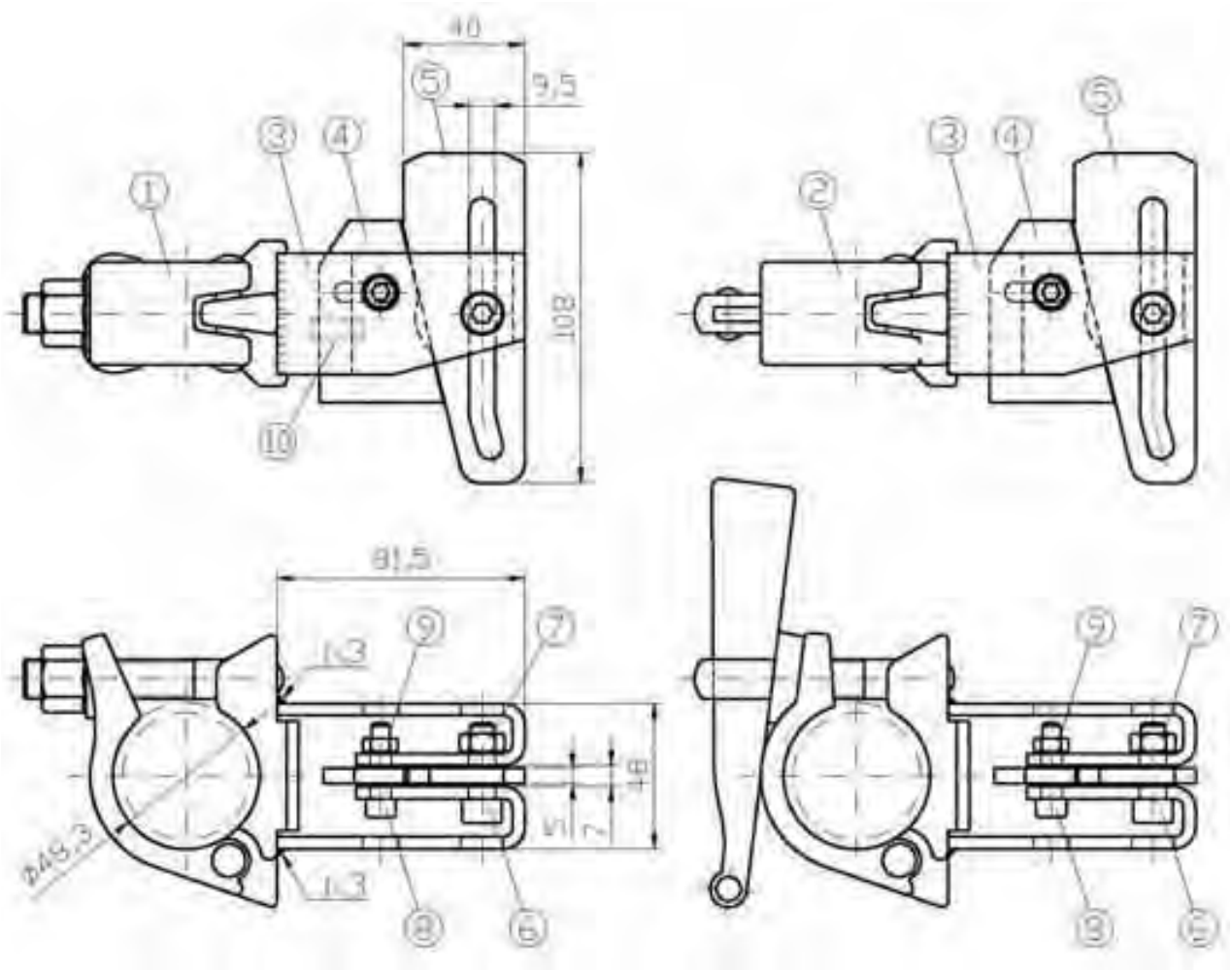
galvanized



(1) U-profile 48x52x2.5 made of Bl 169x2.5 S235JR/
U-profile 48x60x3 made of Bl 196x3 S235JR
(2) Halfcoupler, class B
(3) Marking

galvanized

ALFIX GmbH 63828 Edelbach 09603 Großschirma	**ALBLITZ MODUL** **Transom** according to Z-8.1-862	Annex B, page 106 to the national technical approval Z-8.22-913 of 7. May 2012 Deutsches Institut für Bautechnik A705-A054_ABM



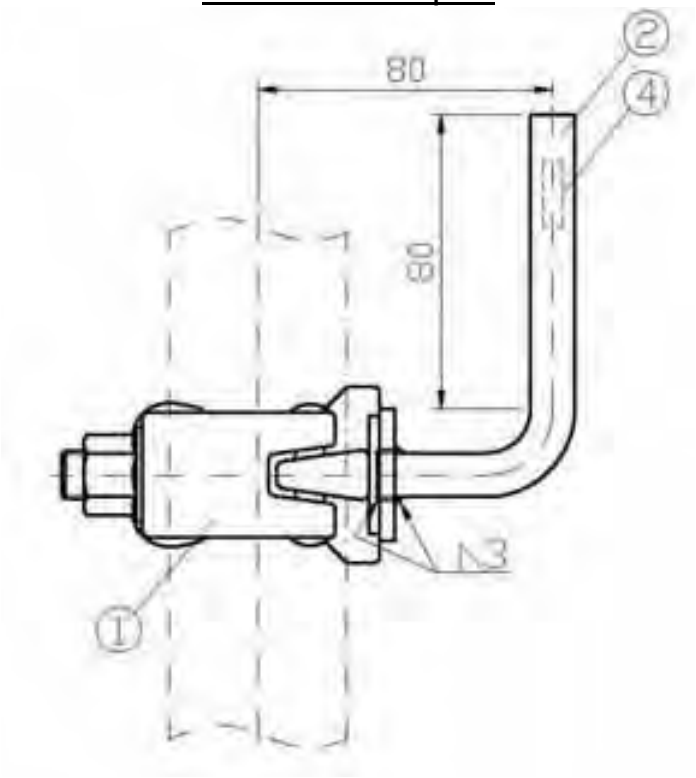
(1) Halfcoupler, class B
(2) alternatively: wedge coupler

(3) Fl 40x4	S235JR
(4) Bd 70x5	S235JR
(5) Bd 80x5	S235JR
(6) Hexagon socket head screw	DIN 7984 – M8x25-8.8-galvanized
(7) Hex nut, self-locking	DIN 985 – M8-8-galvanized
(8) Hexagon socket head screw	DIN 912 – M6x25-8.8-galvanized
(9) Hex nut, self-locking	DIN 985 – M6-8-galvanized

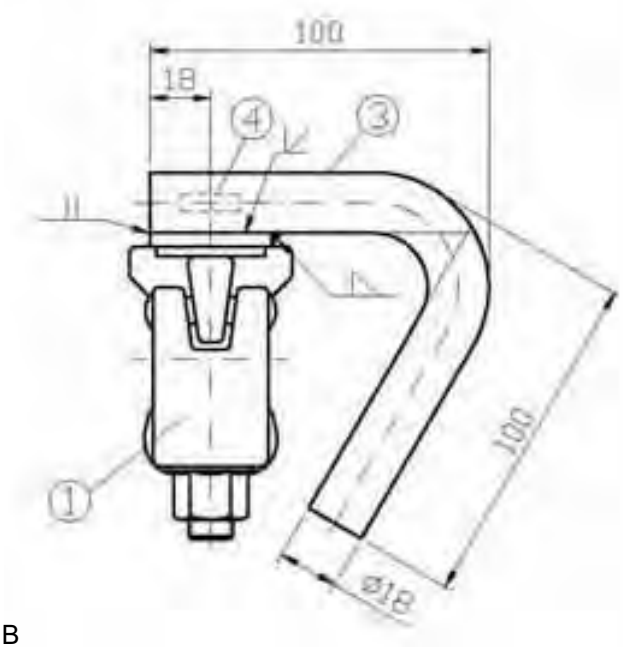
(10) Marking

galvanized

Toeboard coupler

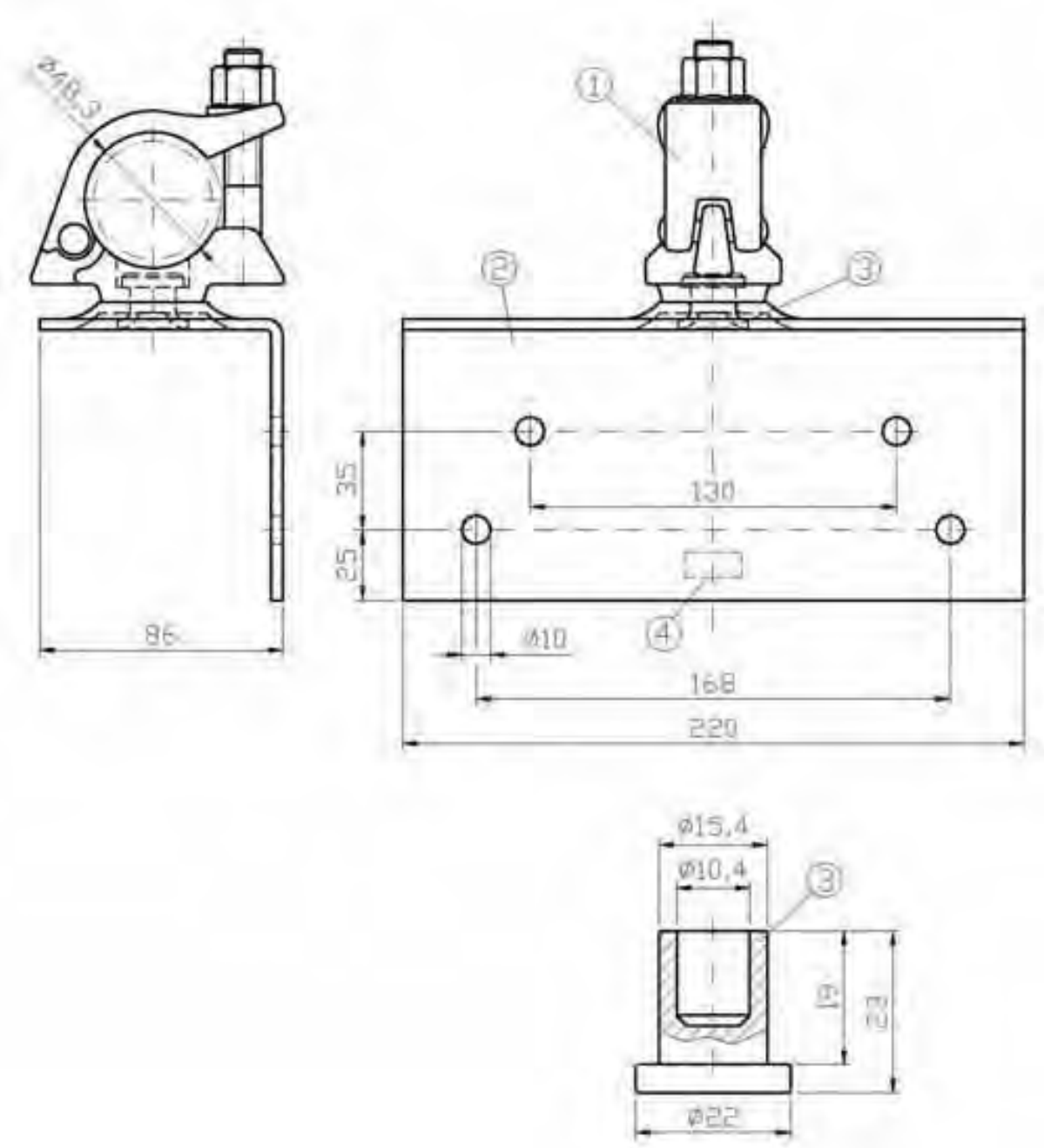


Halfcoupler with hook



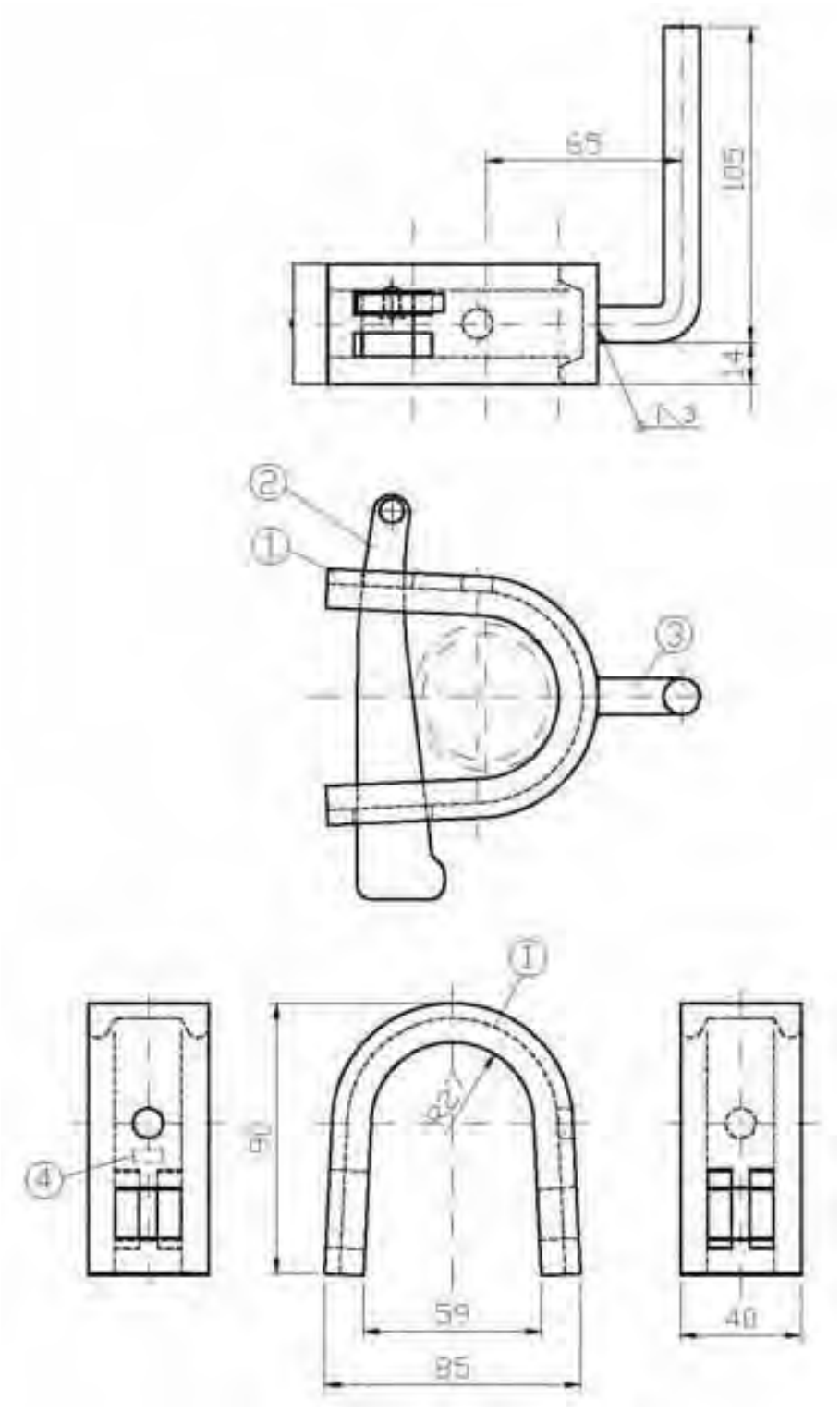
(1) Halfcoupler, class B
(2) Rd 12 S235JR
(3) Rd 18 S235JR
(4) Marking

galvanized



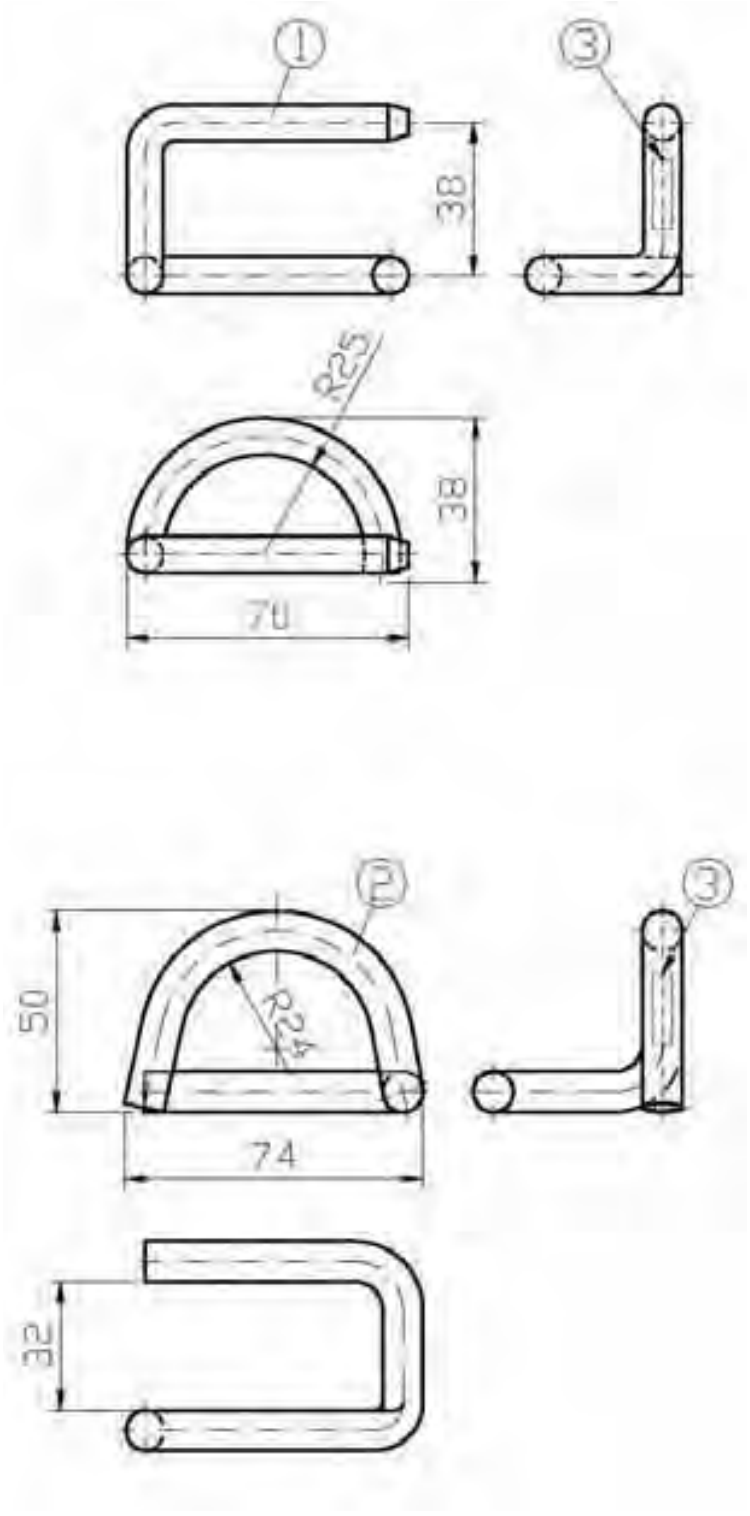
(1) Halfcoupler, class B
(2) Bl 4 S235JR
(3) Rivet, squared timber coupler QST36; blank drawn, zinc-plated
(4) Marking

galvanized



(1) Double bed profile 40x13x5x6.5 S235JR
(2) Wedge 6mm S550MC
(3) Rd 12 S235JR
(4) Marking

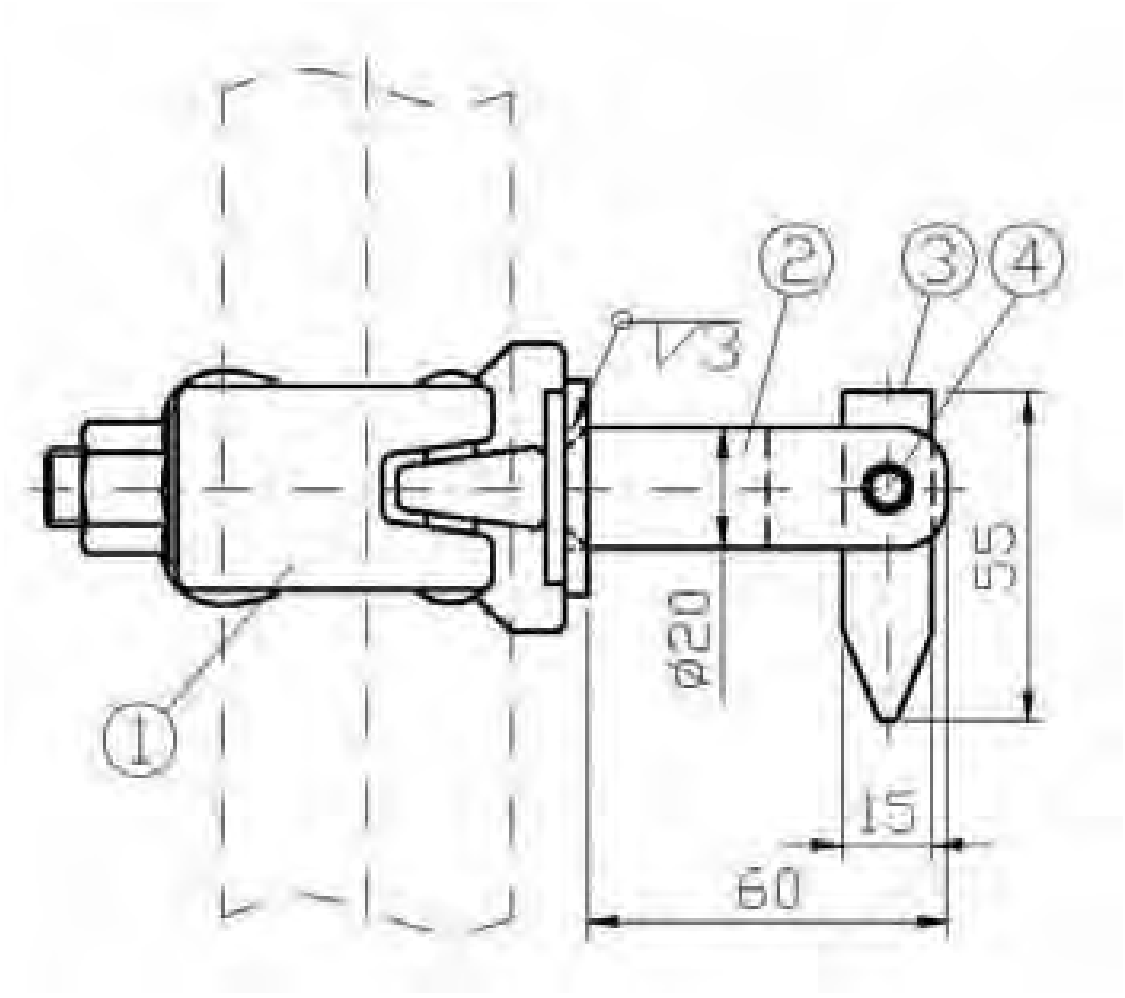
galvanized



(1) Rd Ø9 S235JR
(2) alternatively: Rd Ø10 S235JR
(3) Marking

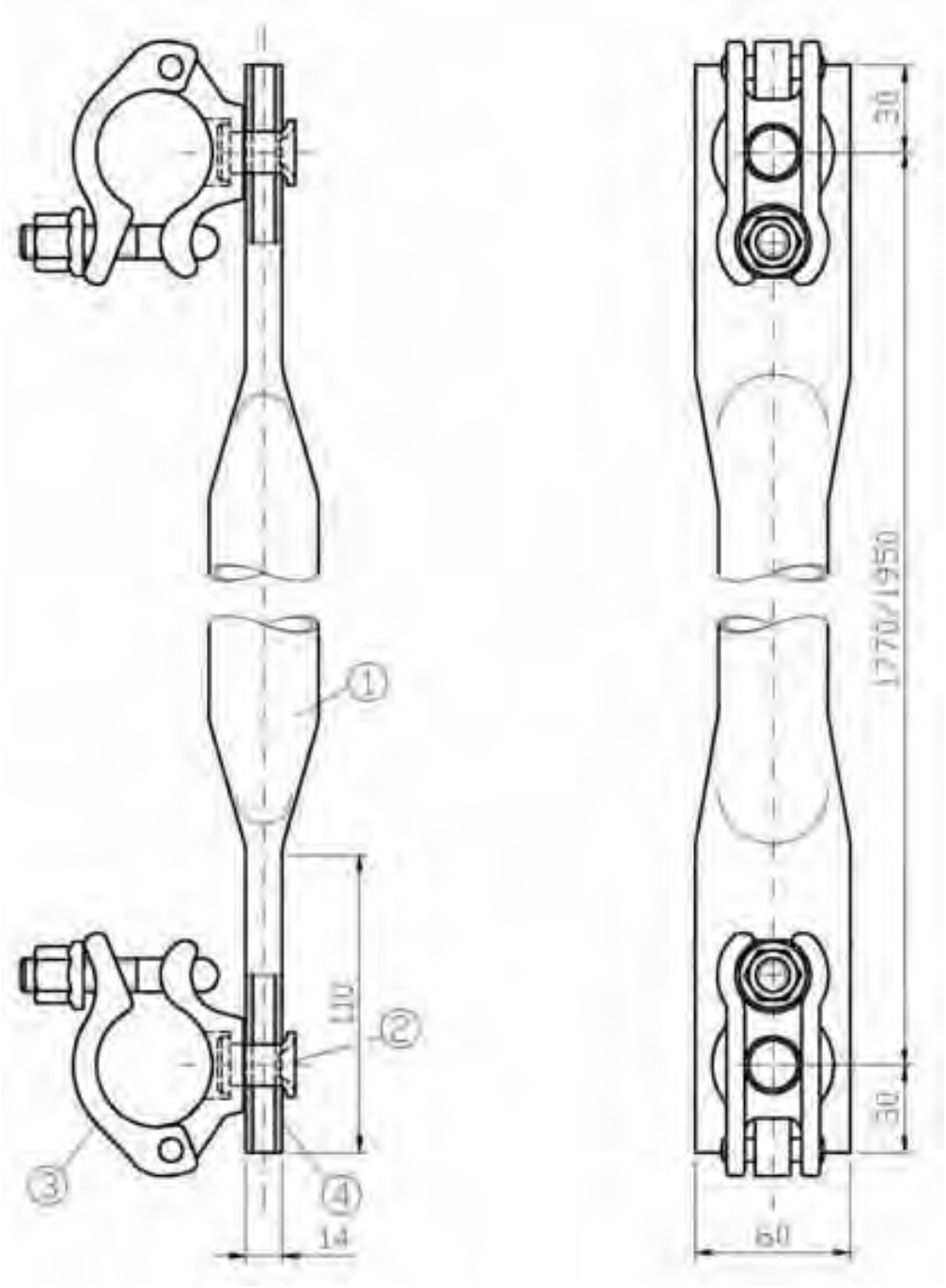
galvanized

ALFIX GmbH 63828 Edelbach 09603 Großschirma	**ALBLITZ MODUL** **Locking clip** according to Z-8.1-862	Annex B, page 111 to the national technical approval Z-8.22-913 of 7. May 2012 Deutsches Institut für Bautechnik A709-A195_ABM



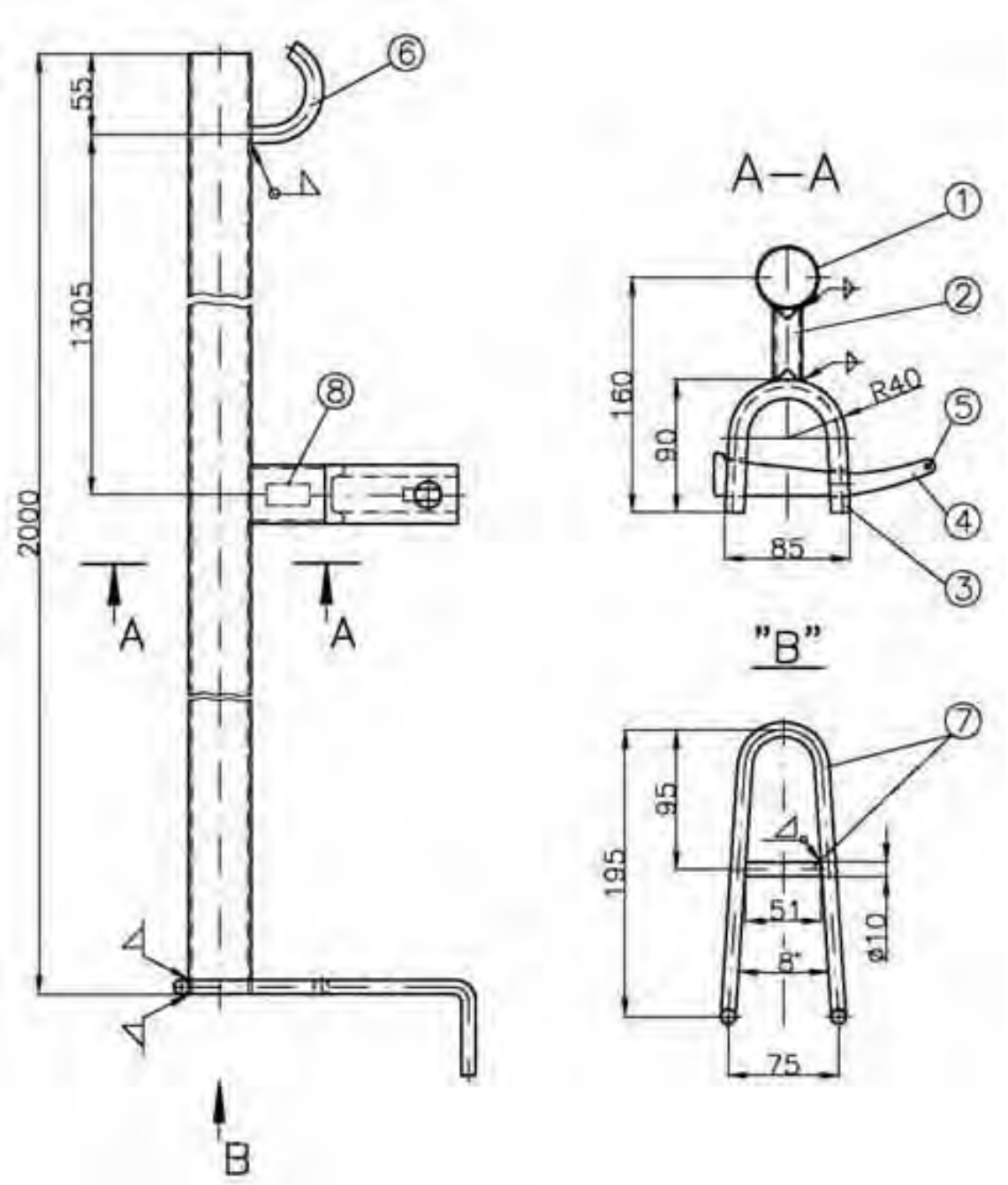
(1) Halfcoupler, class B
(2) Tilting pin Ø20x60 S235JR
(3) Locking lug; s=4mm S235JR; galvanized
(4) Clamping sleeve DIN 1481 – 6x18-steel, galvanized

galvanized



(1)	Tube Ø42.4x2	S235JRH
(2)	Rivet Ø16x3x25	QSt36
(3)	Halfcoupler, class B	
(4)	Marking	

galvanized



(1)	Tube 42.4x2	S235JRG2	
(2)	K 40x20x2	S235JRH	
(3)	Double bed profile 40x12x5x7	S235JRH	
(4)	Wedge plus II	S550MC	
(5)	Button-head rivet Ø5x10	QSt 32-2	DIN 660, zinc-plated, with rivet head of rivet Ø4
(6)	Rd Ø12	S235JRG2	
(7)	Rd Ø10	S235JRG2	
(8)	Marking		

galvanized

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

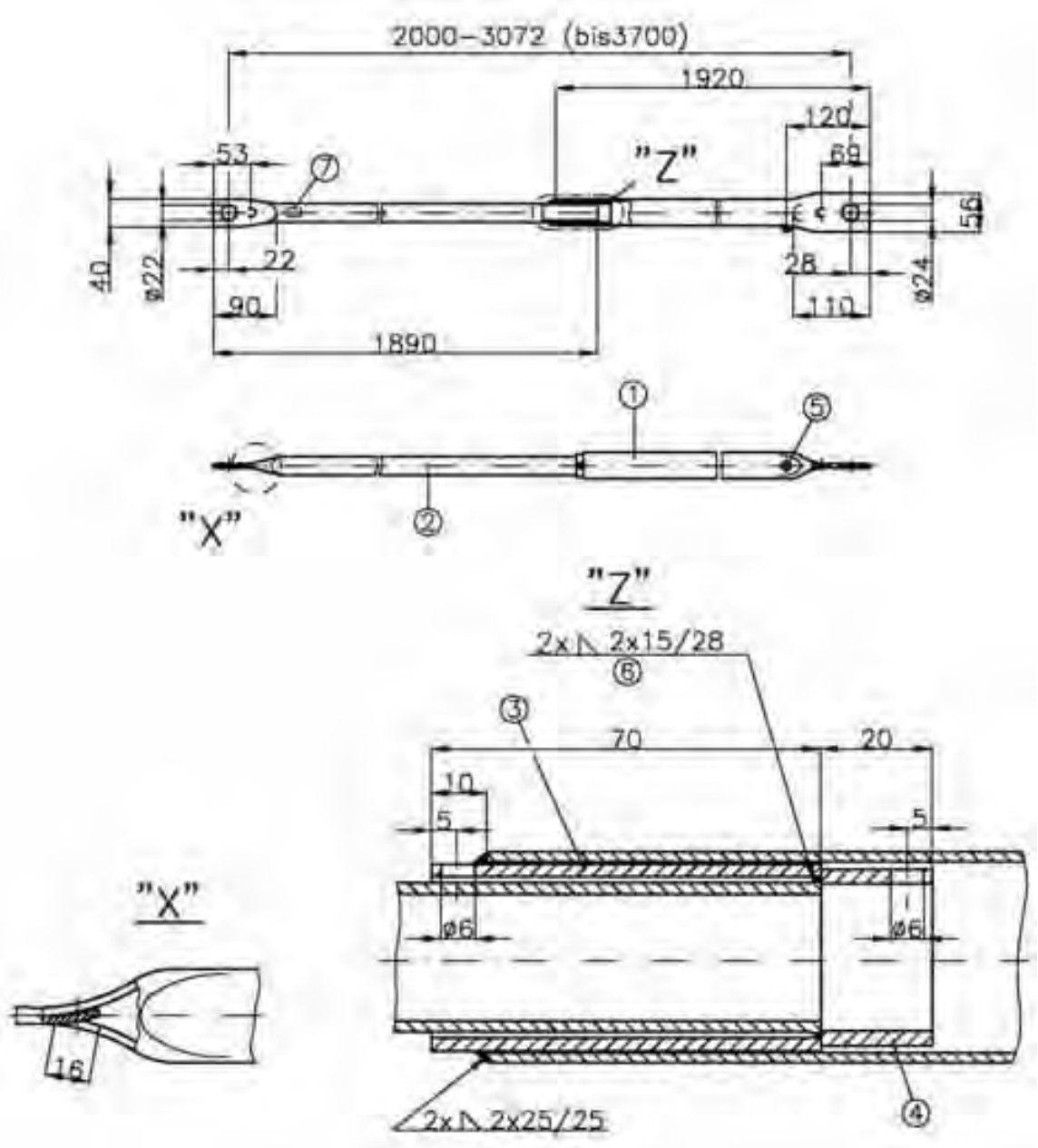
Advanced guardrail post 2.00m

according to Z-8.1-862

Former design

Annex B, page 114 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

A705-A035_ABM



(1) R 38x2 S235JRH
(2) R 26.9x2.6 S235JRH
(3) R 33.7x2.3 S235JRH
(4) R 31.8x2.6 S235JRH
(5) Self-tapping screw ST6.3x16 DIN 7504-K-steel, galvanized
(6) Items 2 and 4, grind smooth after welding
(7) Marking

galvanized

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Telescopic guardrail

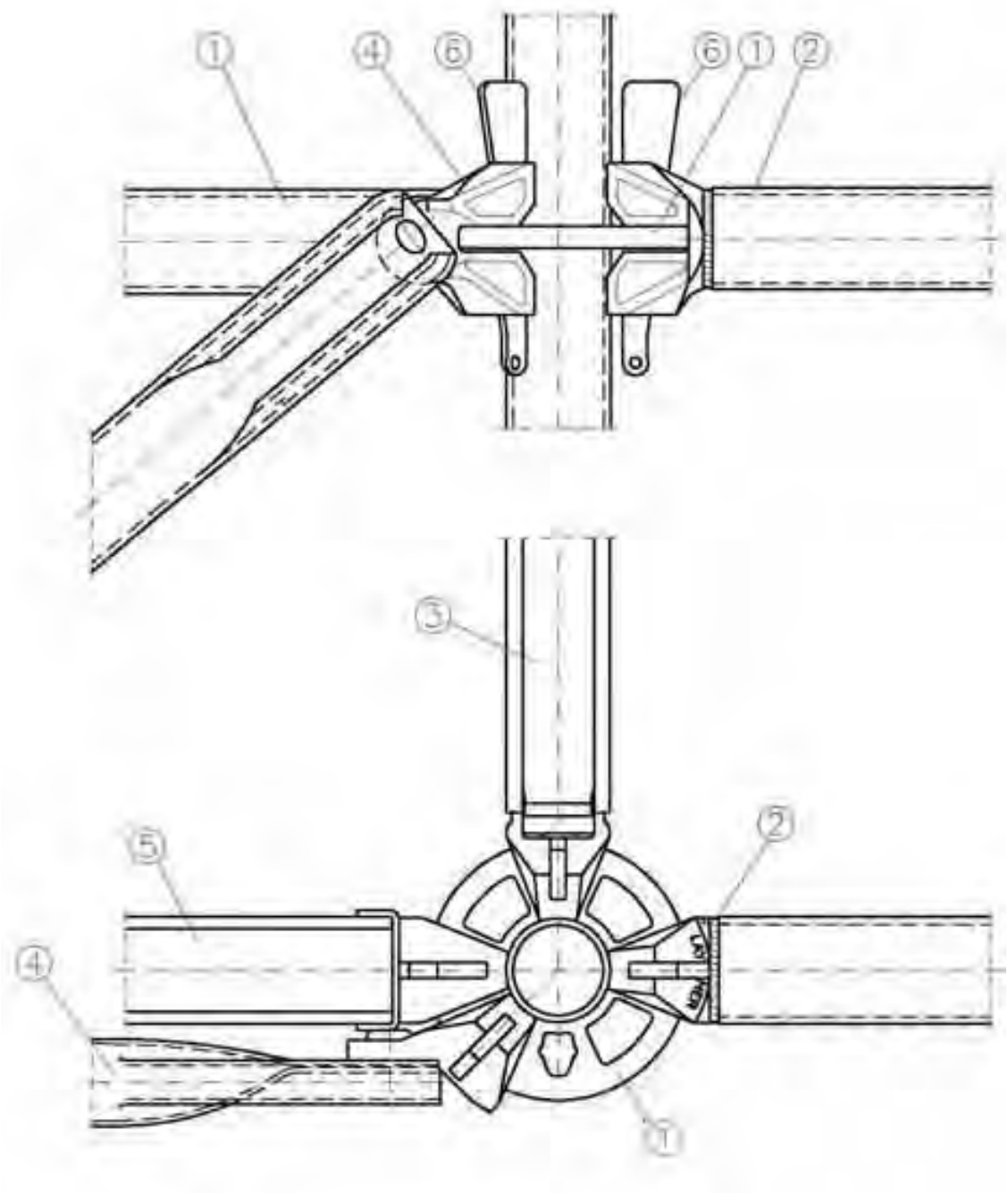
2.00m-3.07m

according to Z-8.1-862

Former design

Annex B, page 115 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

A709-A036_ABM



(1) Perforated disc
(2) Tube ledger
(3) U-ledger
(4) Vertical diagonal brace
(5) U-bracket ledger
(6) Wedge

ALFIX GmbH
63828 Edelbach
09603 Großschirma

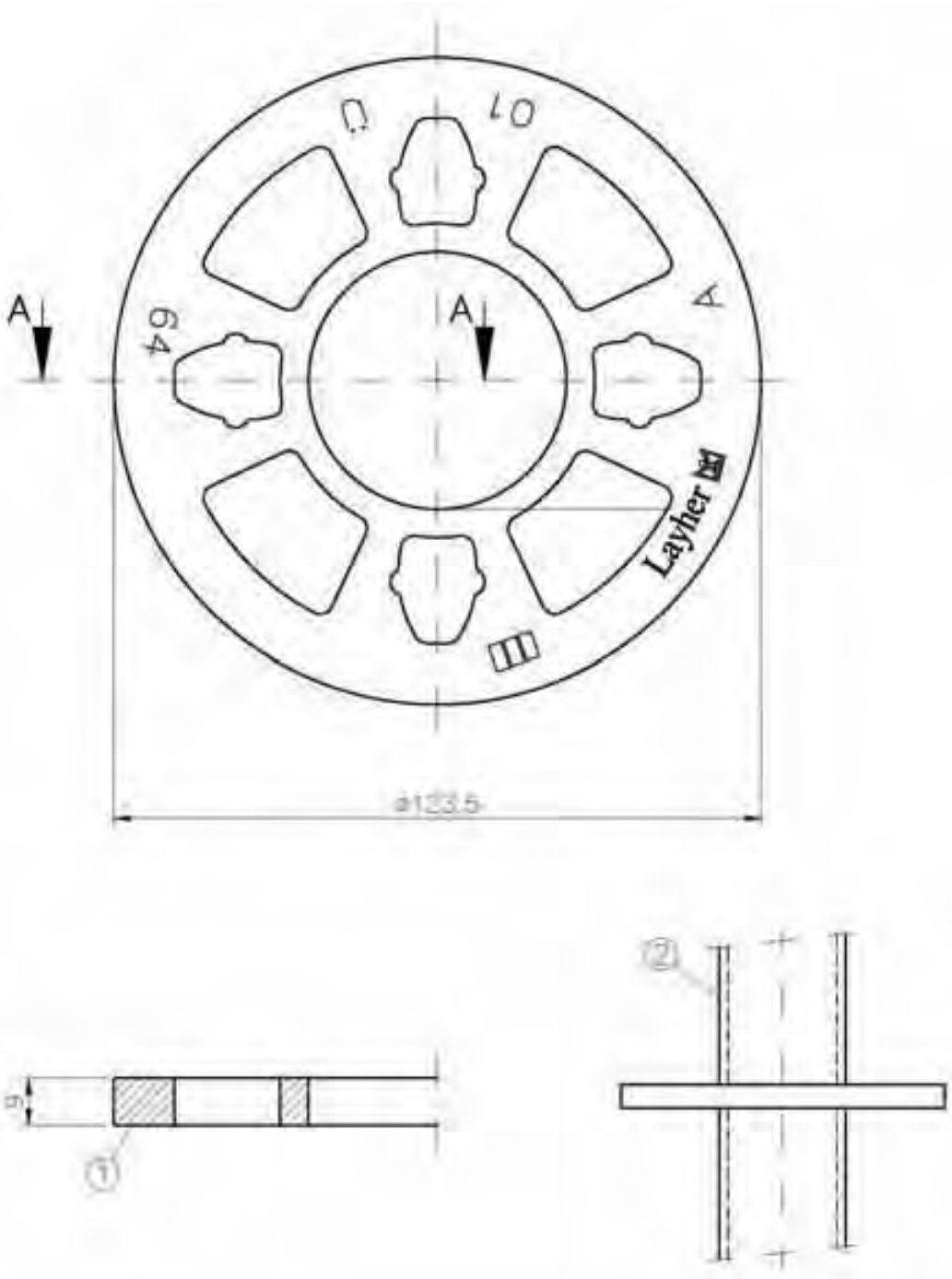
ALBLITZ MODUL

Scaffold connector

Overview

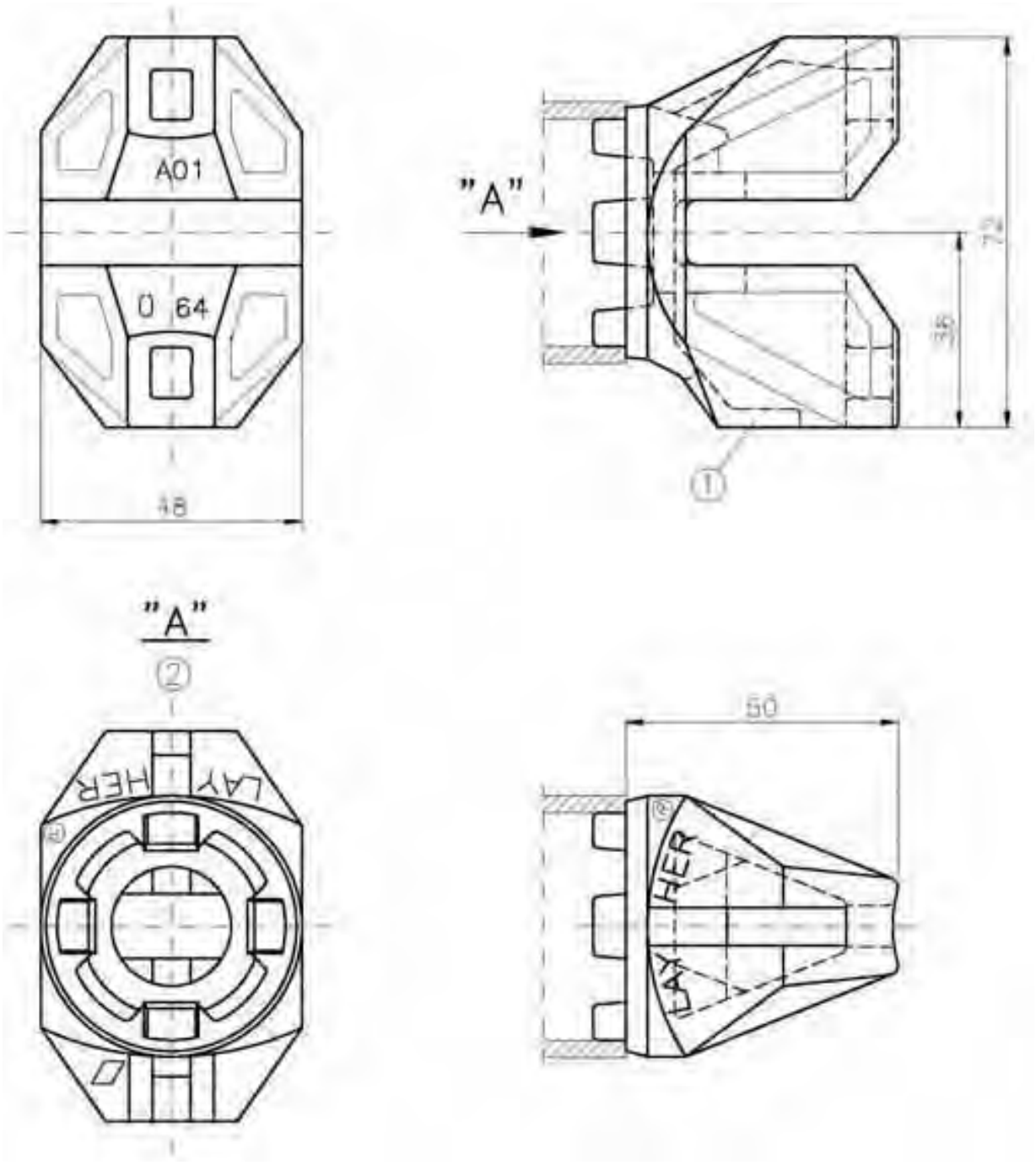
K2000+

according to Z-8.22-64



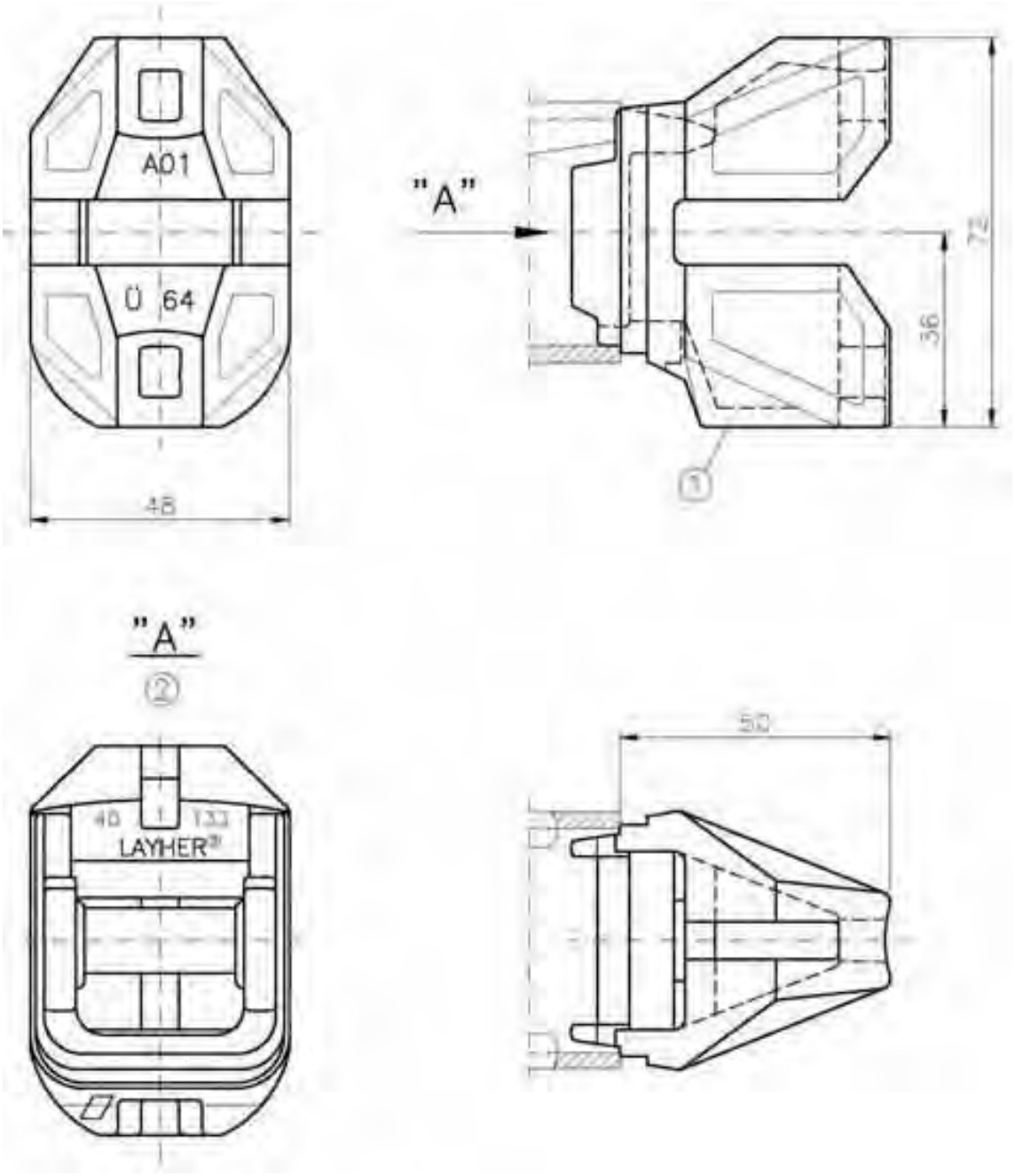
(1) Perforated disc, punched Ø123.5 K2000+
(2) Upright Tube

ALFIX GmbH 63828 Edelbach 09603 Großschirma	**ALBLITZ MODUL** **Scaffold connector** **Perforated disc, punched Ø123.5** K2000+ according to Z-8.22-64	Annex B, page 117 to the national technical approval Z-8.22-913 of 7. May 2012 Deutsches Institut für Bautechnik ABM710_B105



(1) Connecting head for O-ledger K2000+
Wedge, see ABM710-B110
(2) View ”A“ shown without tube

ALFIX GmbH 63828 Edelbach 09603 Großschirma	**ALBLITZ MODUL** **Scaffold connector** **Connecting head for O-ledger** K2000+ according to Z-8.22-64	Annex B, page 118 to the national technical approval Z-8.22-913 of 7. May 2012 Deutsches Institut für Bautechnik ABM710_B106



(1) Connecting head for U-ledger K2000+
Wedge, see ABM710-B110
(2) View ”A“ shown without profile

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Scaffold connector

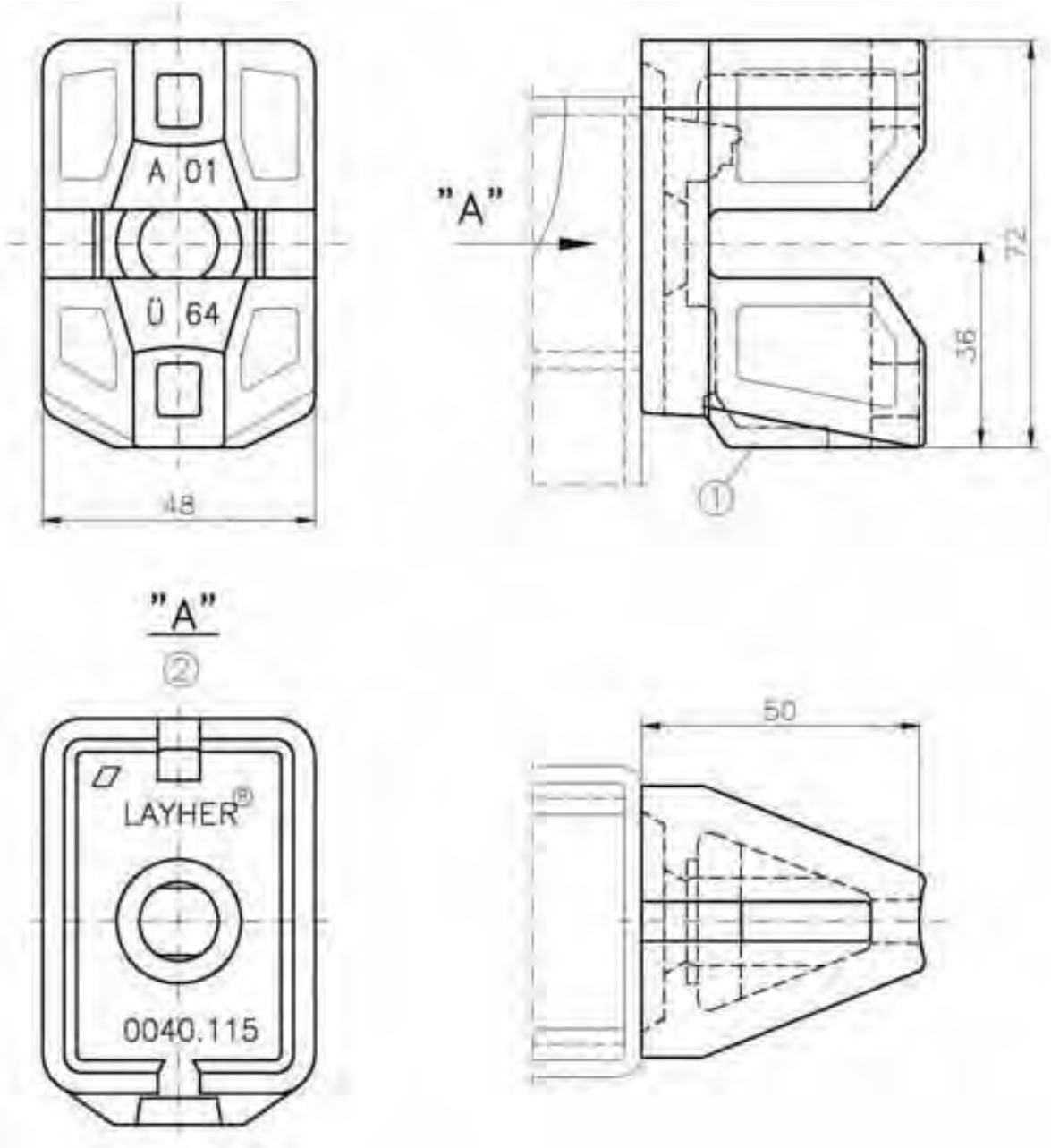
Connecting head for U-ledger

K2000+

according to Z-8.22-64

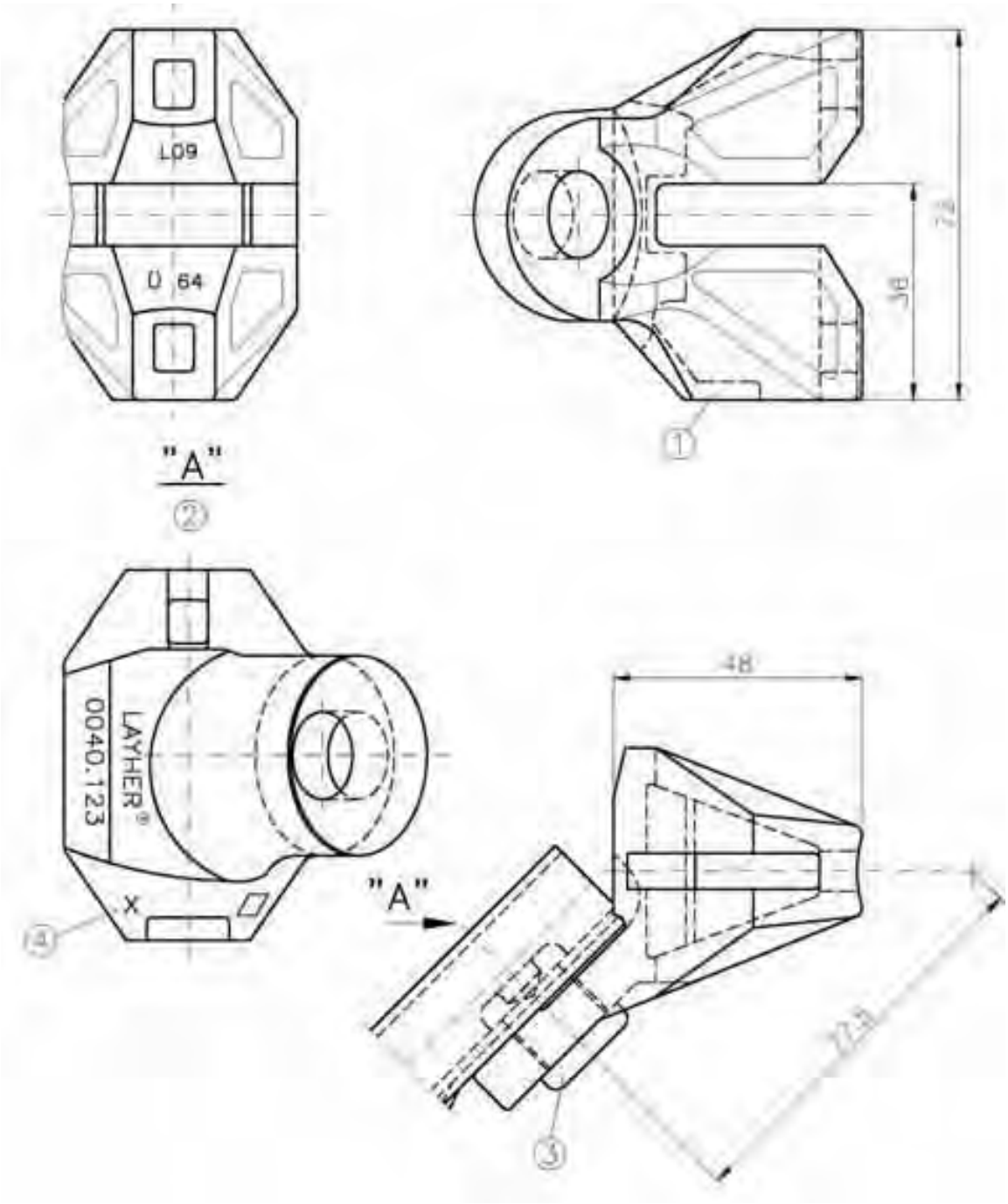
Annex B, page 119 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

ABM710_B107



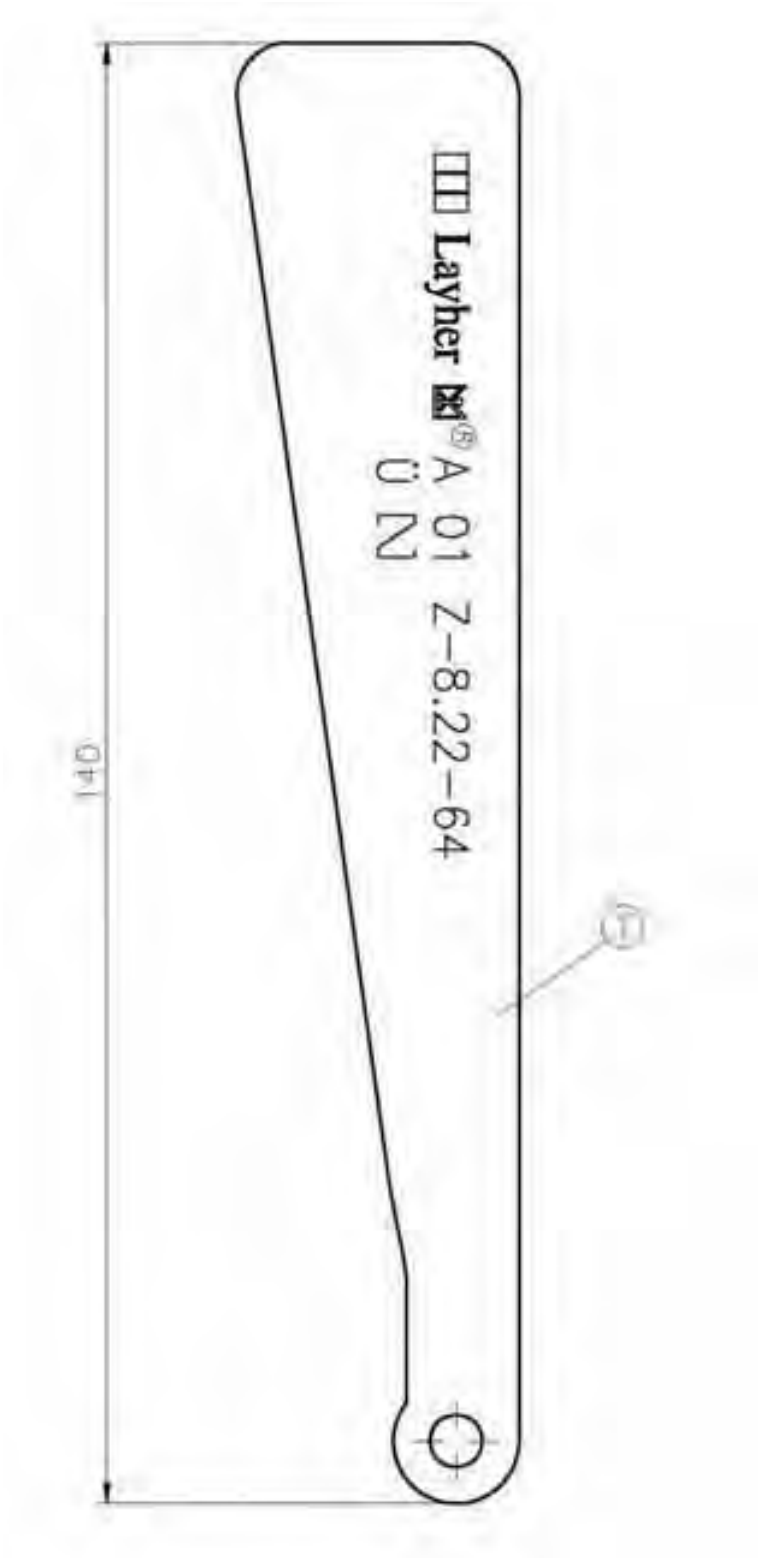
(1) Connecting head for U-bracket K2000+
Wedge, see ABM710-B110
(2) View ”A“ shown without profiles

ALFIX GmbH 63828 Edelbach 09603 Großschirma	**ALBLITZ MODUL** **Scaffold connector** **Connecting head for U-bracket** K2000+ according to Z-8.22-64	Annex B, page 120 to the national technical approval Z-8.22-913 of 7. May 2012 Deutsches Institut für Bautechnik ABM710_B108



(1) Connection for diagonal brace K2000+ Wedge, see ABM710-B110
(2) View ”A“ shown without tube
(3) Rivet head Ø22
(4) X=1= design, as shown
X=2= design, mirror-inverted

ALFIX GmbH 63828 Edelbach 09603 Großschirma	**ALBLITZ MODUL** **Scaffold connector** **Connecting head for diagonal brace** K2000+ according to Z-8.22-64	Annex B, page 121 to the national technical approval Z-8.22-913 of 7.May 2012 Deutsches Institut für Bautechnik ABM710_B109



(1) Wedge t=6mm K2000+

ALFIX GmbH
63828 Edelbach
09603 Großschirma

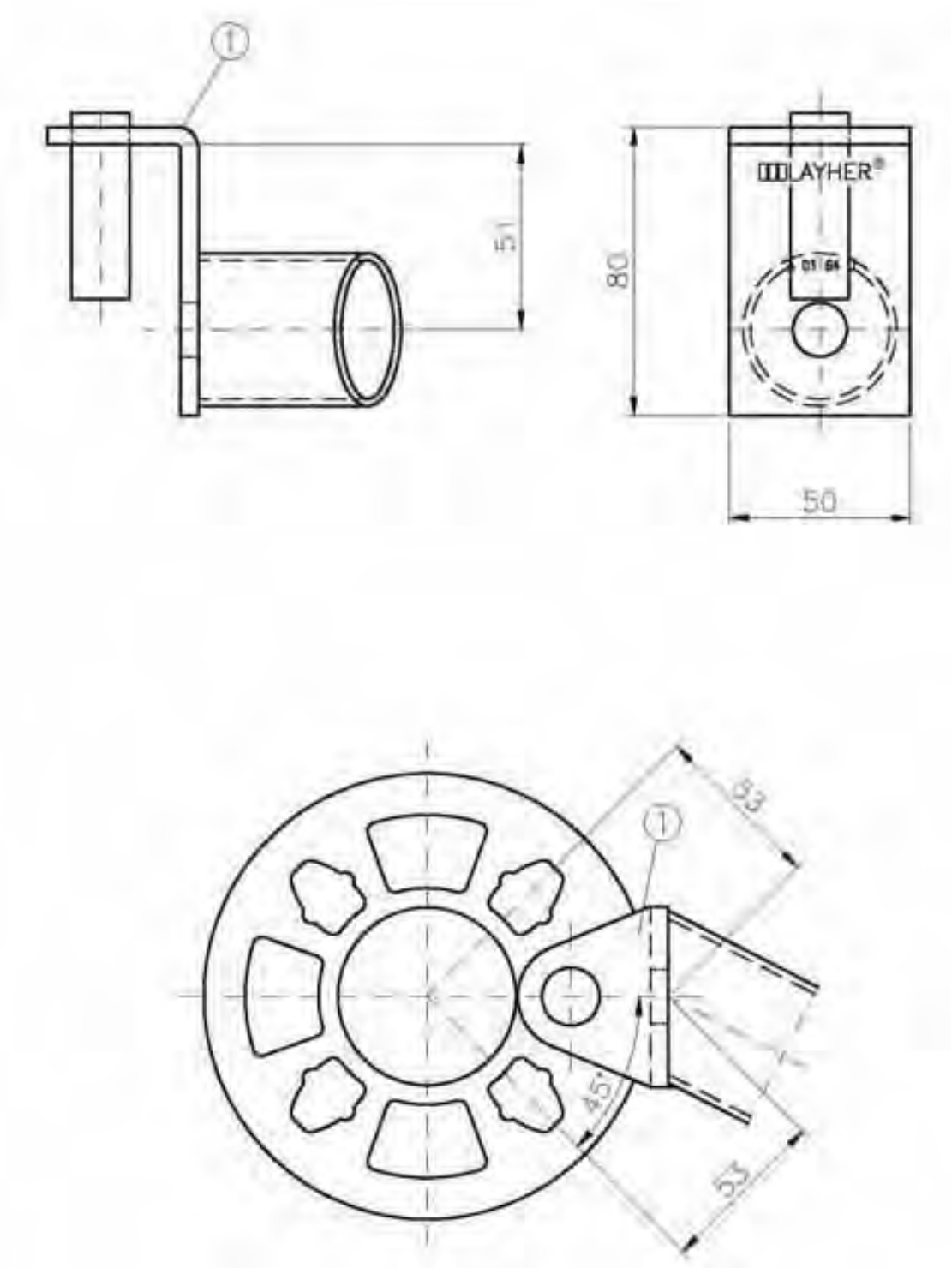
ALBLITZ MODUL

Scaffold connector

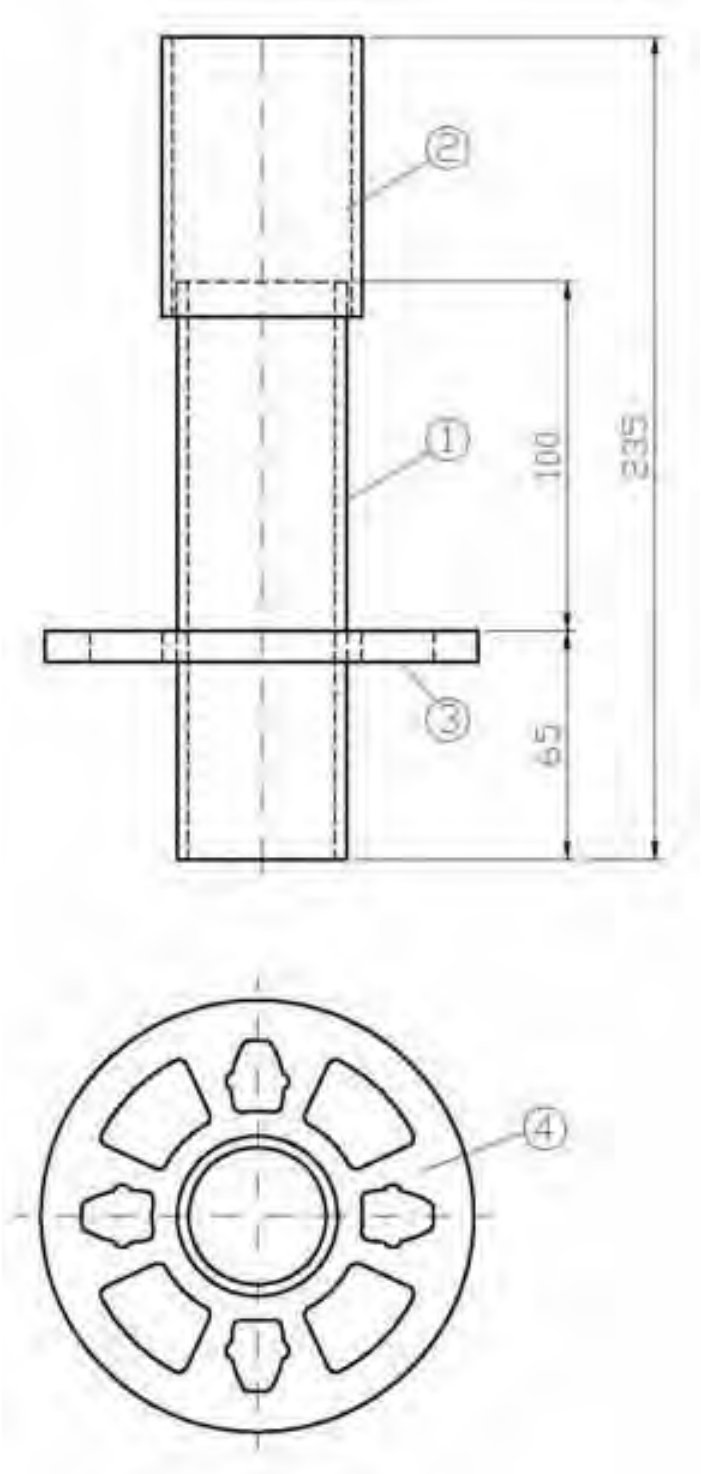
Wedge

K2000+

according to Z-8.22-64



(1) Connecting head for horizontal diagonal brace K2000+



(1)	Tube	Ø48.3x3.2	EN 10219-S235JRH	ReH≥320N/mm^2
(2)	Tube	Ø57x2.9	EN10219-S235JRH	
(3)	Perforated disc,		see ABM710-B105	
(4)	Marking			

Size [m]	Weight [kg]
-	1.6

ALFIX GmbH
63828 Edelbach
09603 Großschirma

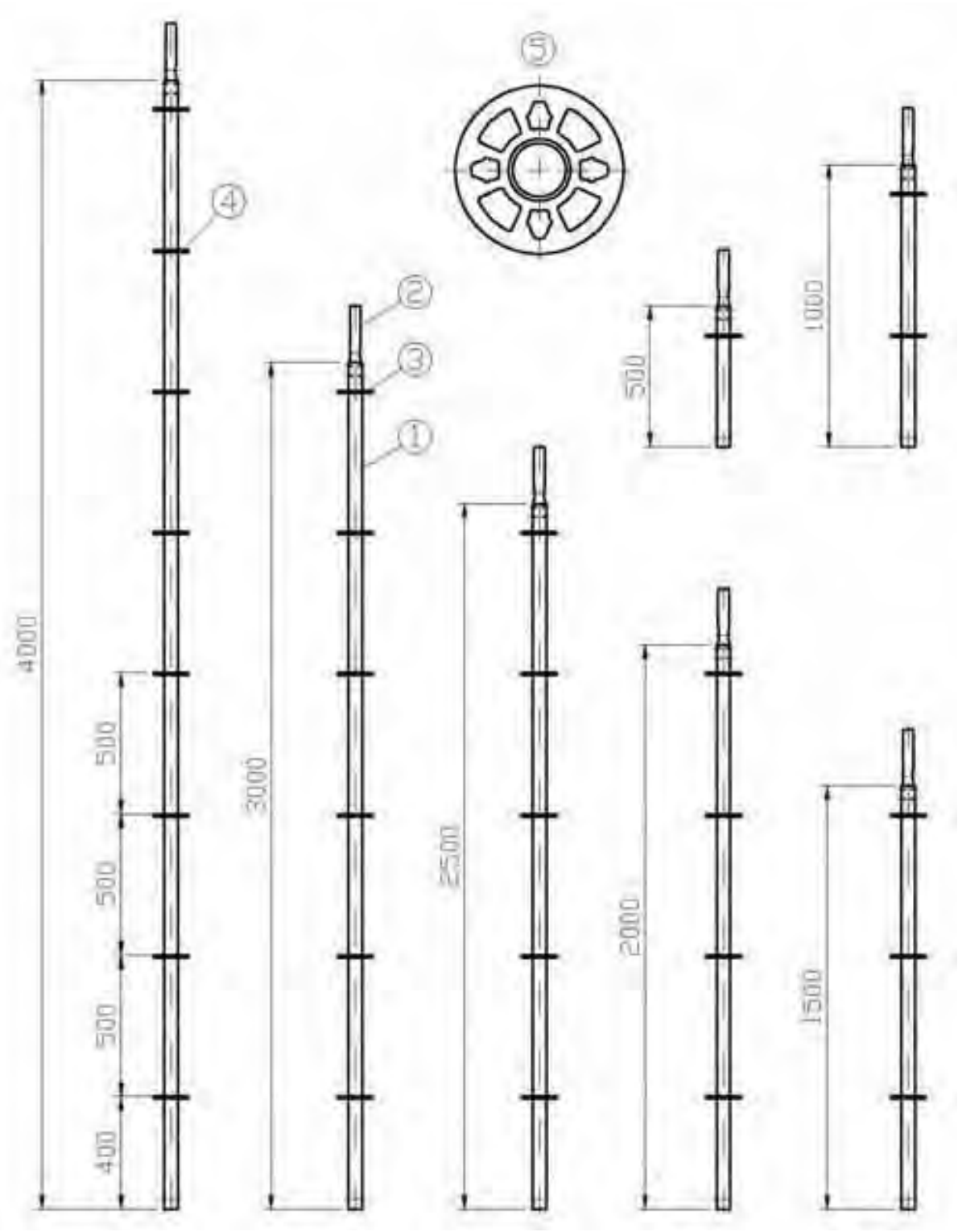
ALBLITZ MODUL

Starter piece

according to Z-8.22-64

Annex B, page 124 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

ABM710_B031



(1)	Tube	Ø48.3x3.2	EN 10219-S235JRH	ReH≥320N/mm^2
(2)	Spigot fitting	Ø38x3.6	EN 10219-S275JOH	ReH≥320N/mm^2
(3)	Perforated disc,		see ABM710-B105	
(4)	Marking			
(5)	All perforated discs, congruent!			

Size [m]	Weight [kg]
0.5	2.9
1.0	5.5
1.5	7.8
2.0	10.2
2.5	12.2
3.0	14.6
4.0	19.1

ALFIX GmbH
63828 Edelbach
09603 Großschirma

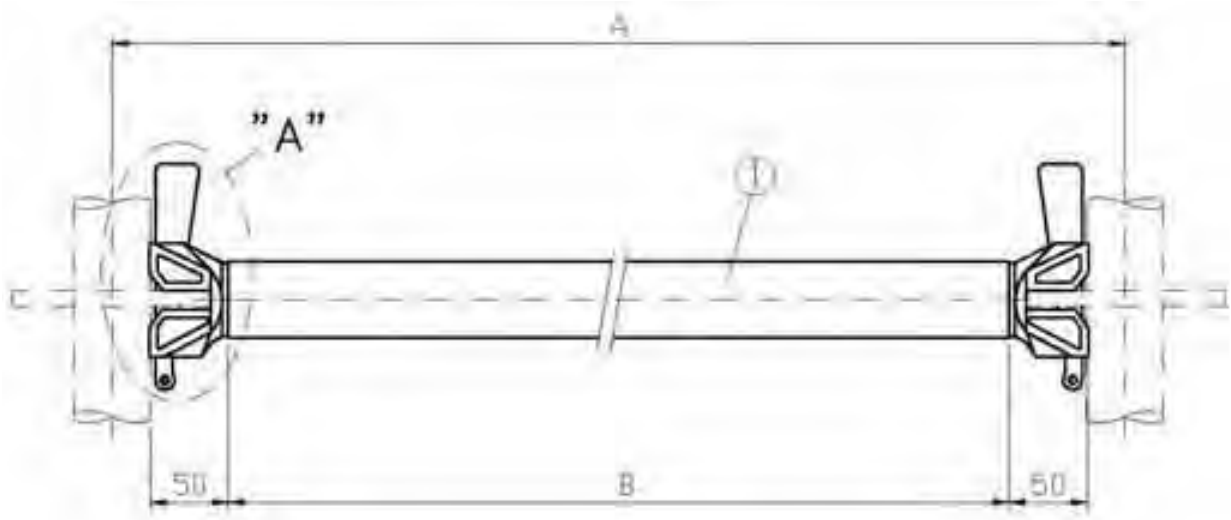
ALBLITZ MODUL

AR upright with spigot fitting

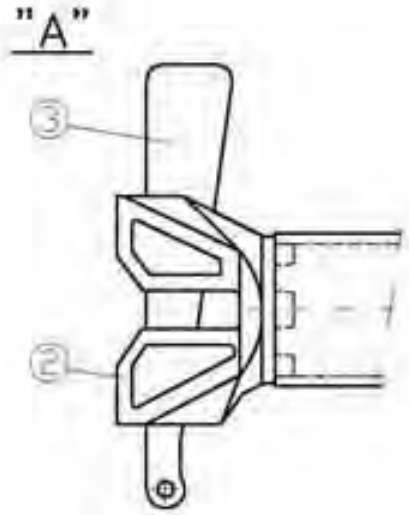
according to Z-8.22-64

Annex B, page 125 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

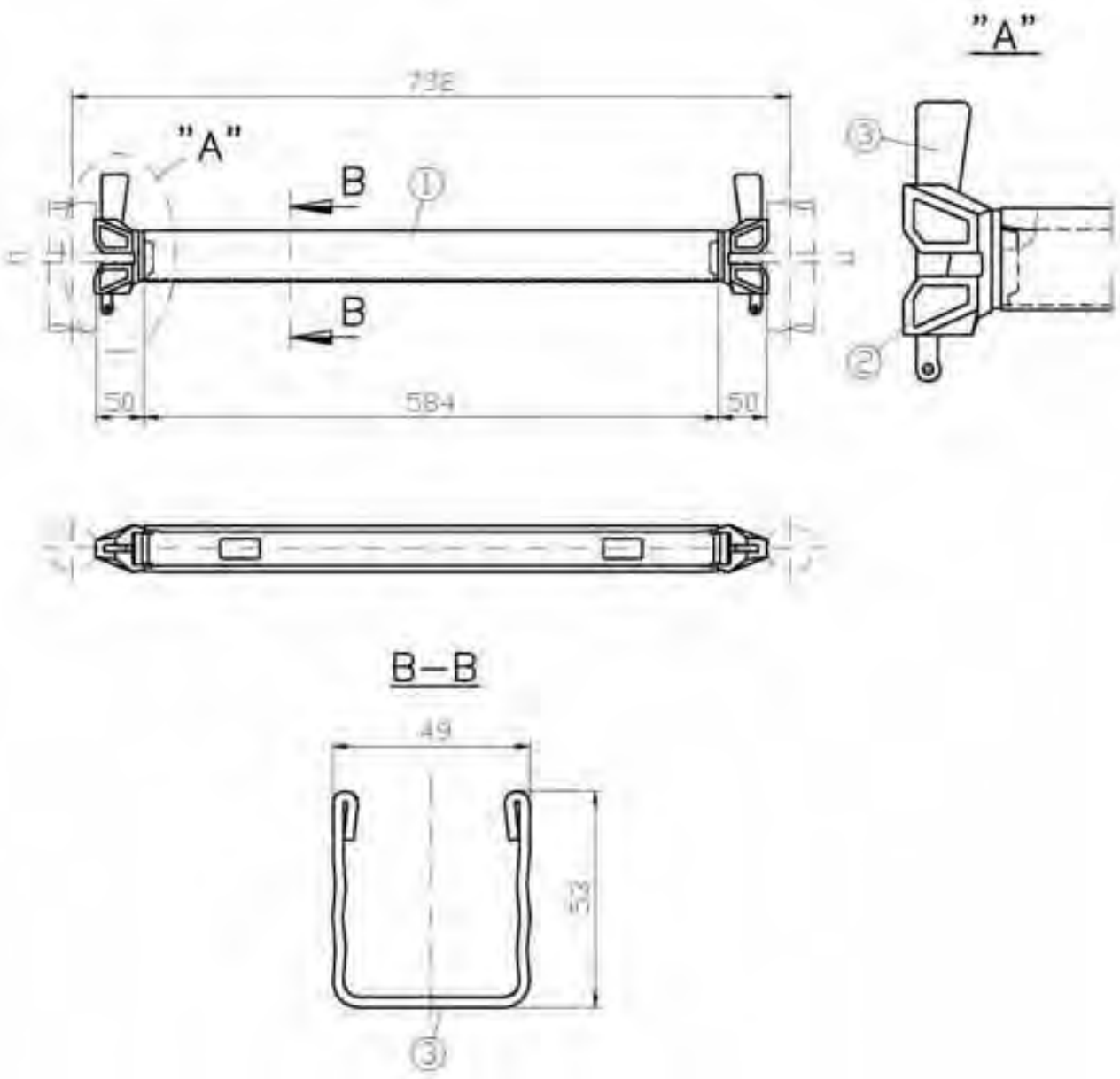
ABM710_B032



A [mm]	B [mm]	Gew. [kg]
732	584	3,1
1036	888	4,4
1088	940	4,3
1400	1252	5,4
1572	1424	5,9
2072	1924	7,8
2572	2424	9,7
3072	2924	11,4
4144	3996	15,1



(1)	Tube	Ø48.3x3.2	EN 10219-S235JRH	ReH≥320N/mm^2
(2)	Head piece,		see ABM710-B106	
(3)	Marking			



Size [m]	Weight [kg]
0.73	3.1

(1)	U-profile	49x53x2.5
(2)	Head piece,	
(3)	Marking	

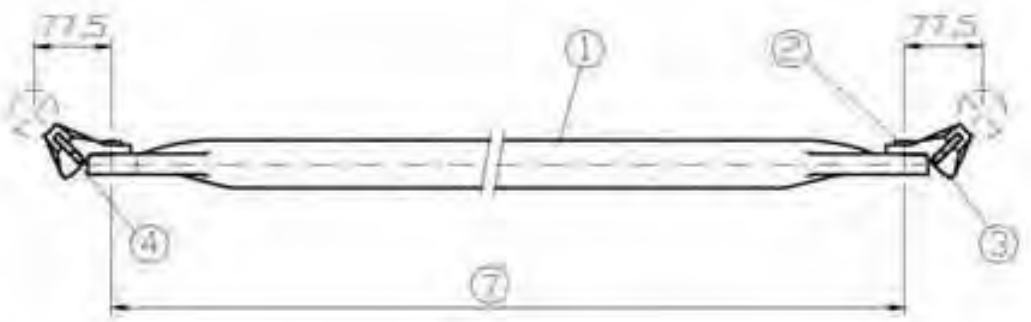
EN 10025-2-S235JR
see ABM710-B107

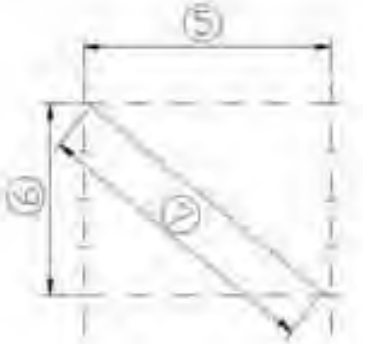
ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

U-ledger 0.73m

according to Z-8.22-64

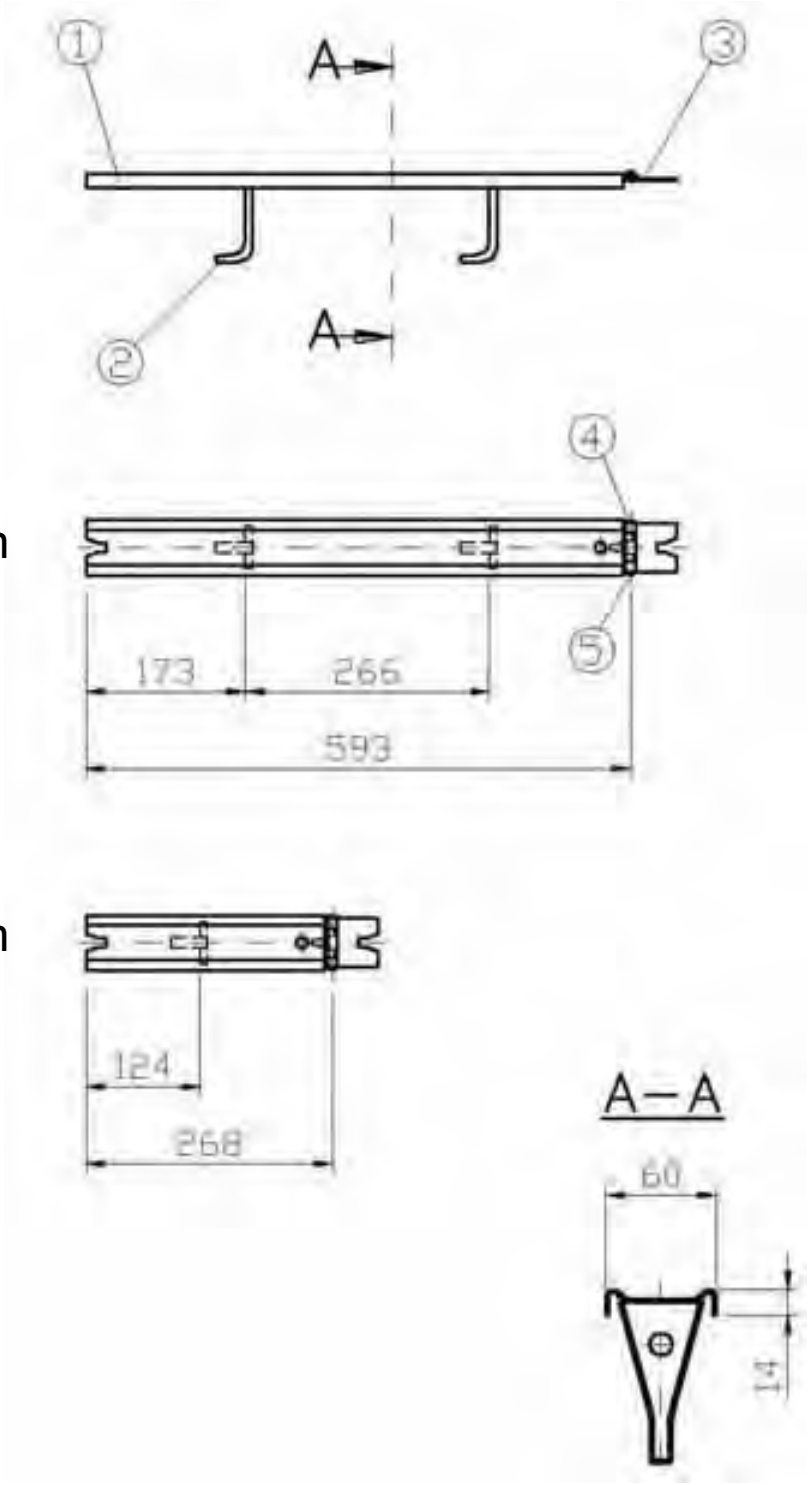




⑤	⑥	⑦	⑧
1088	500	1059	4,0
1572	500	1503	5,7
2072	500	1981	7,2
2572	500	2468	8,4
3072	500	2960	9,6
732	1000	1155	4,2
1088	1000	1368	4,8
1572	1000	1734	6,3
2072	1000	2162	7,4
2572	1000	2616	8,6
3072	1000	3084	9,9
732	1500	1607	5,4
1088	1500	1767	5,8
1572	1500	2063	7,3
2072	1500	2434	8,2
2572	1500	2845	9,5
3072	1500	3280	10,5

⑤	⑥	⑦	⑧
732	2000	2082	6,8
1036	2000	2186	7,6
1088	2000	2207	7,0
1400	2000	2356	7,5
1572	2000	2451	7,7
2072	2000	2770	8,9
2572	2000	3137	9,5
3072	2000	3537	10,5

(1)	Tube	Ø48.3x2.3	EN 10219-S235JRH
(2)	Cylinder head rivet	Ø16x25	EN 10263-2
(3)	Head piece,		see ABM710-B109
(4)	Marking		
(5)	Bay length [mm]		
(6)	Bay height [mm]		
(7)	Size 'A'[mm]		
(8)	Weight [kg]		



0.73m

0.39m

(1)	Rail	t=2.5	EN 10025-S235JRC	
(2)	Hook	t=2.5	EN 10111-DD13	
(3)	Safety latch	t=2.5	EN 10111-DD13	
(4)	Hexagon screw	M5x60	Strength 8.8	ISO 898-1
(5)	Locking nut	M5	Strength 5	EN 20 898-2

Size [m]	Weight [kg]
0.39	0.6
0.73	1.3

LFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

U-plank retainer

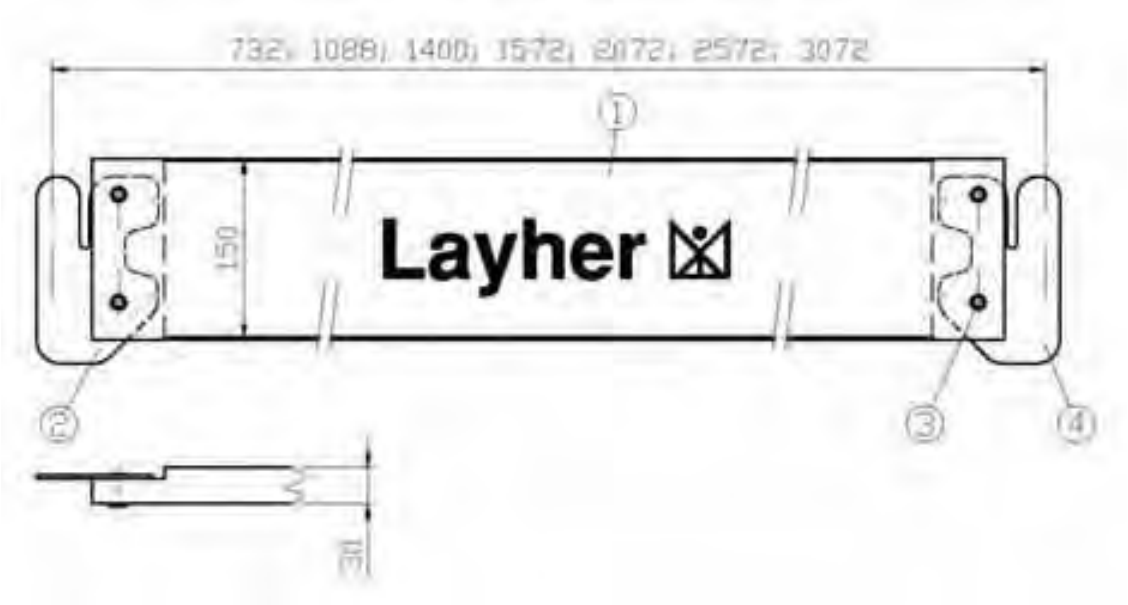
according to Z-8.22-64

Annex B, page 129 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

ABM710_B037

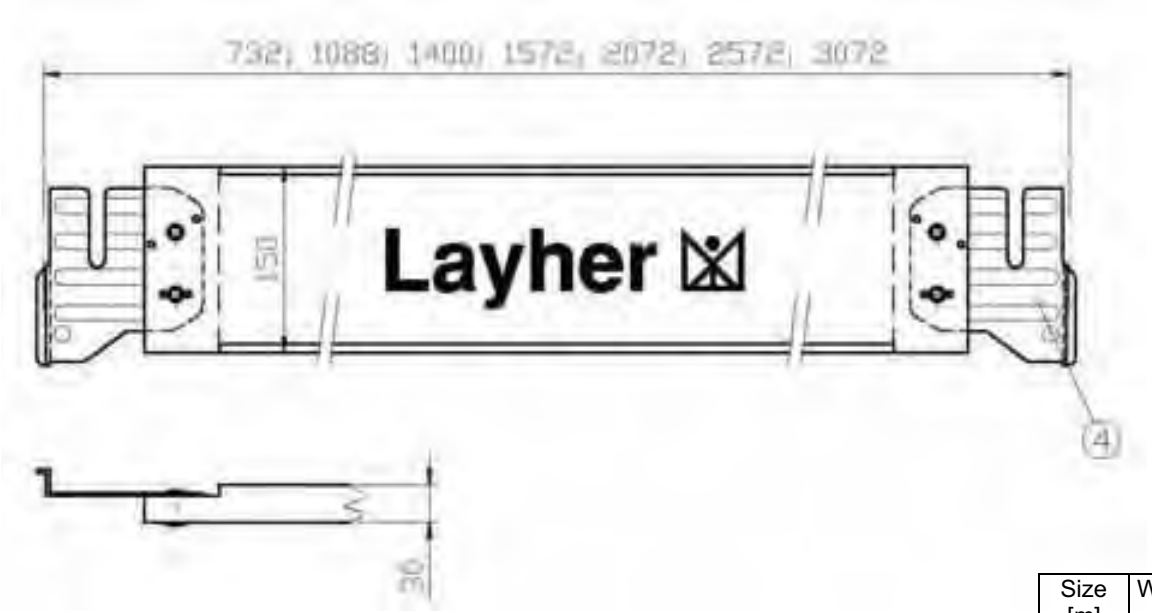
AR U-toeboard, design I

(Fitting „straight“)



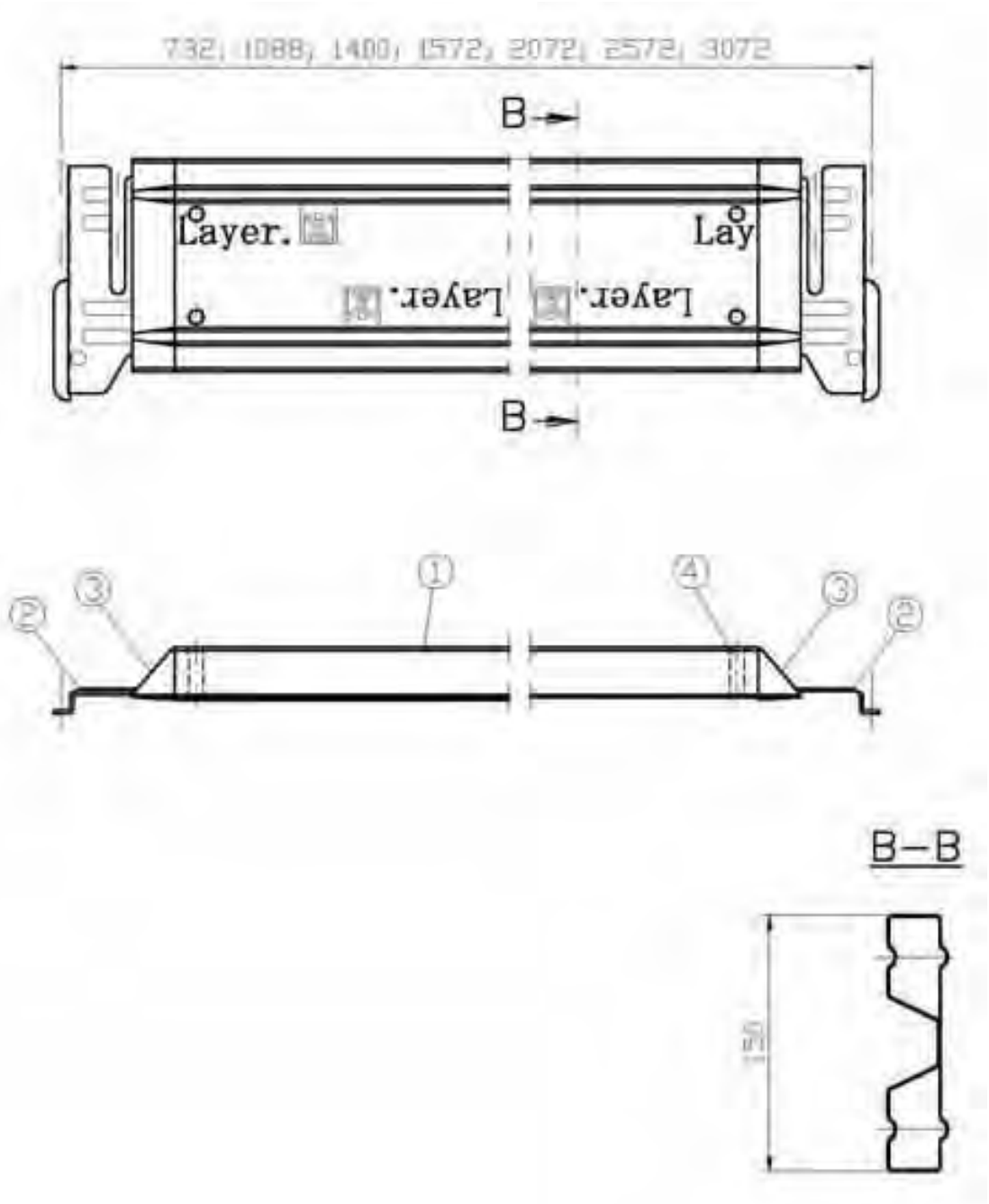
AR U-toeboard, design II

(Fitting „cranked“)



(1)	Wood	30x150	DIN 4074-S10-Fi
(2)	Fitting	t=2.5	DIN 10326-S250GD
(3)	Truss head rivet	Ø8x30	EN 10263-2
(4)	Marking		

Size [m]	Weight [kg]
0.73	1.5
1.09	2.5
1.40	3.4
1.57	3.5
2.07	4.3
2.57	5.7
3.07	6.3



(1)	Sheet metal, profiled	150x30	EN 10326-S250
(2)	Fitting	t=2.5	EN 10326-S250
(3)	Plastic cap	151x31	
(4)	Tube rivet	A 10x1x35	EN 10305-1-E235

Size [m]	Weight [kg]
0.73	1.8
1.09	2.5
1.40	3.1
1.57	3.4
2.07	4.4
2.57	5.4
3.07	6.3

ALFIX GmbH
63828 Edelbach
09603 Großschirma

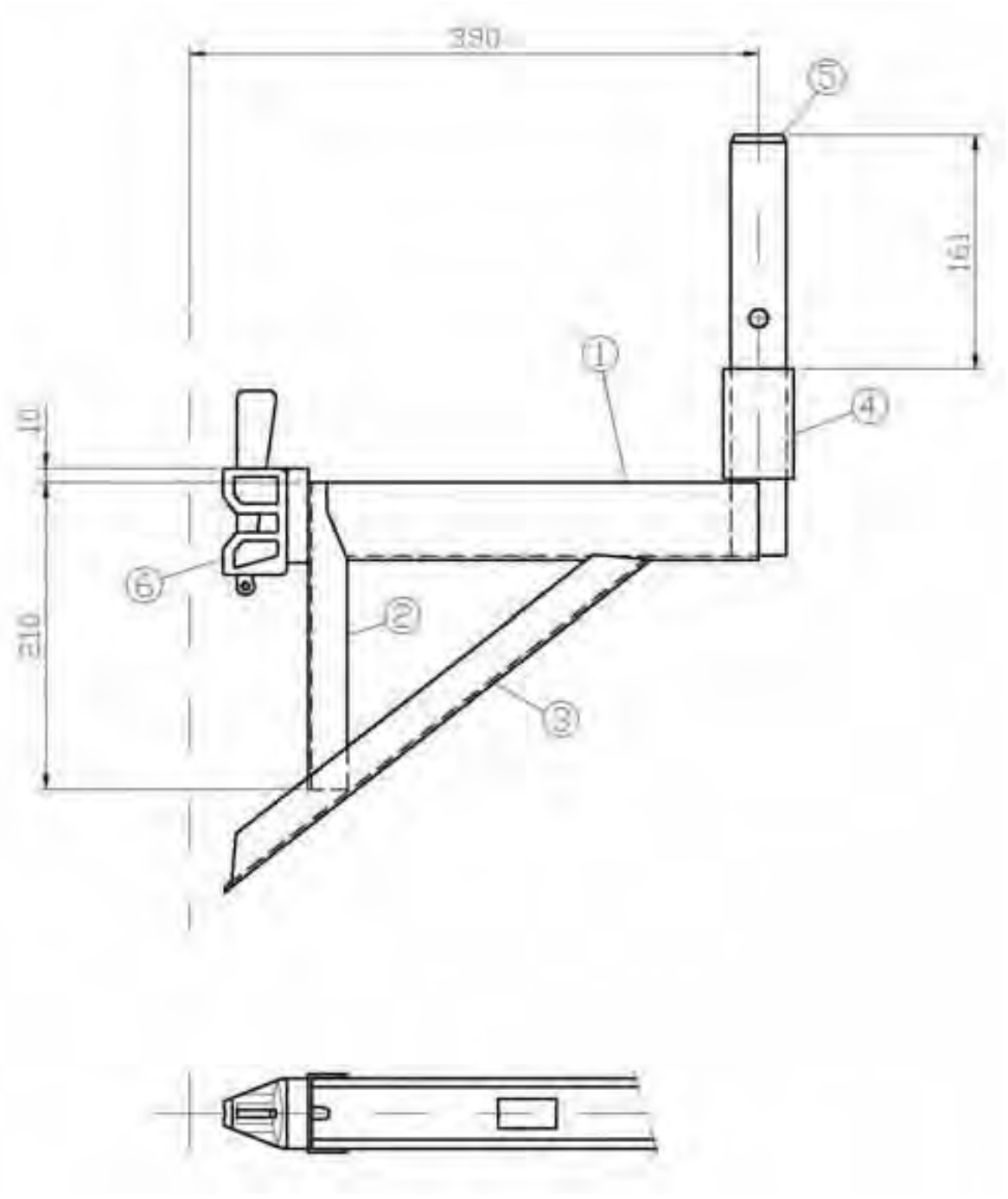
ALBLITZ MODUL

U-toeboard, steel

according to Z-8.22-64

Annex B, page 131 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

ABM710_B039



(1)	U-profile,		see ABM710-B034
(2)	Supporting U	49x25x2.5	EN 10025-2-S235JR
(3)	Bracing U	54x27x2.5	EN 10025-2-S235JR
(4)	Tube	Ø48.3x4	EN 10219-S235JRH
(5)	Spigot fitting	Ø38x3.6	EN 10219-S275JOH
(6)	Head piece,		see ABM710-B008

Size [m]	Weight [kg]
0.39	3.9

ALFIX GmbH
63828 Edelbach
09603 Großschirma

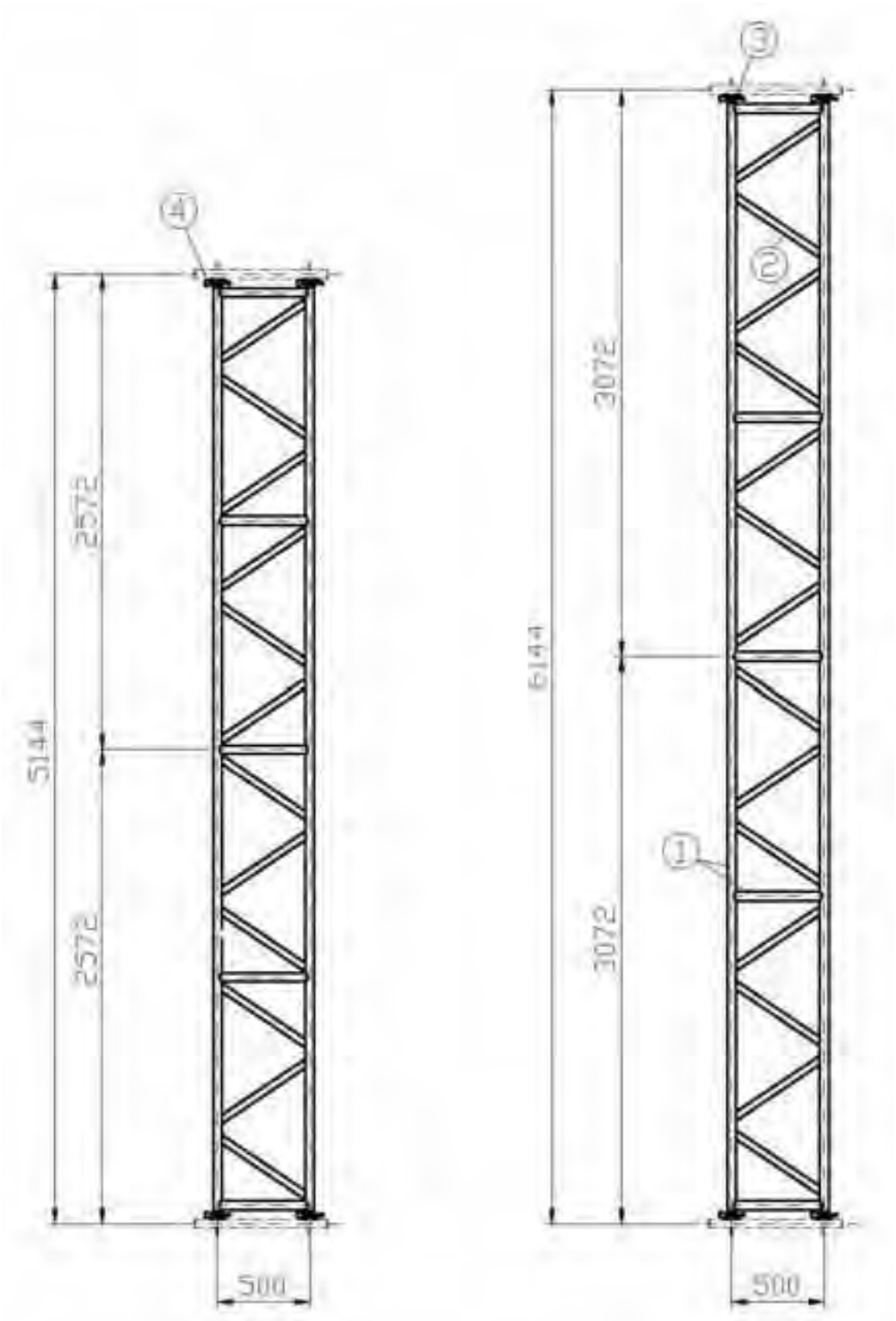
ALBLITZ MODUL

U-bracket

according to Z-8.22-64

Annex B, page 132 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

ABM710_B040



(1)	Tube	Ø48.3x3.2	EN 10219-S235JRH	ReH≥320N/mm^2
(2)	Rectangular tube	30x20x2	EN 10025-S235JR	
(3)	Head piece,		(see ABM710-B106)	
(4)	Marking			

Size [m]	Weight [kg]
5.14	55.2
6.14	64.2

ALFIX GmbH
63828 Edelbach
09603 Großschirma

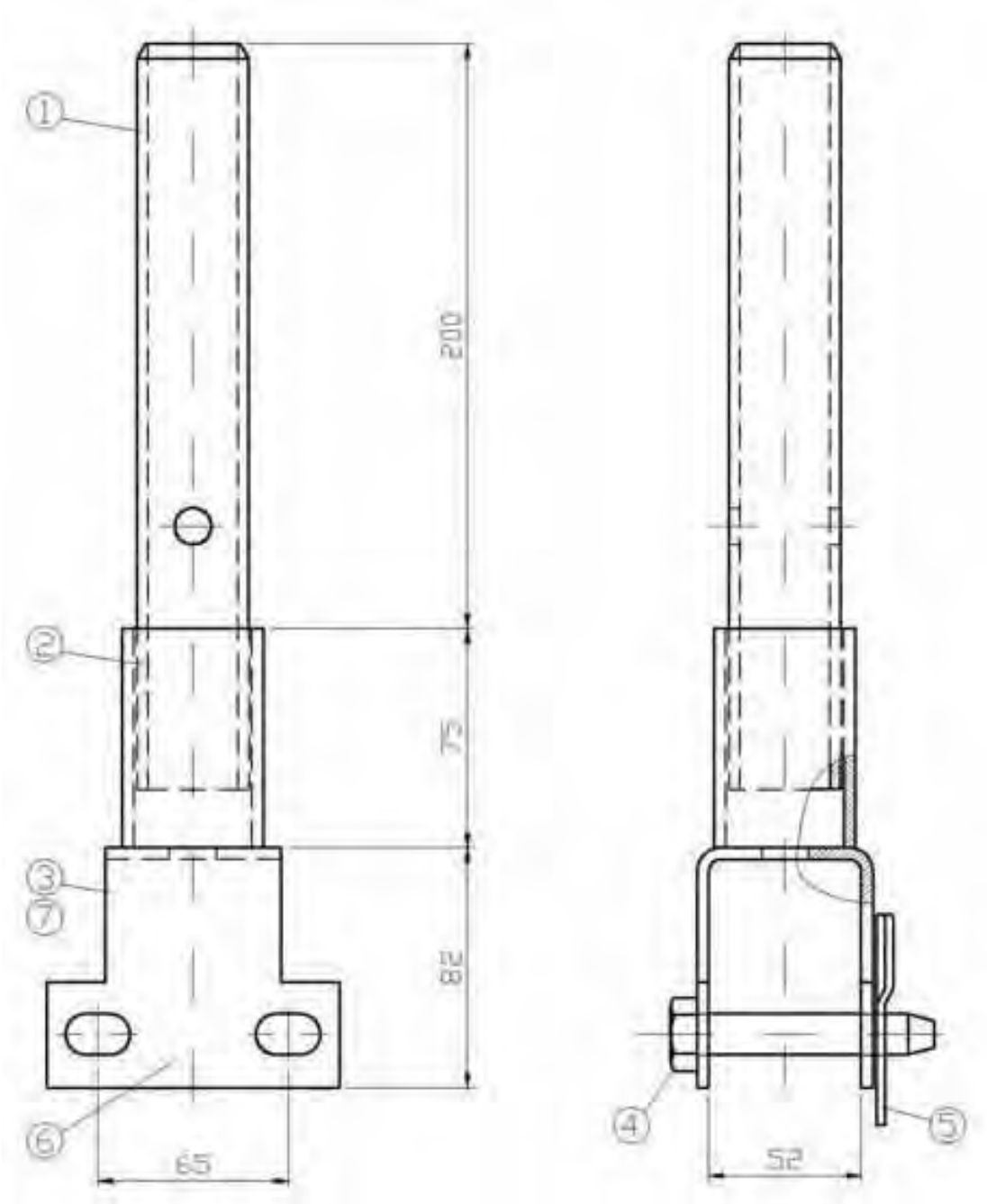
ALBLITZ MODUL

O-lattice girder

according to Z-8.22-64

Annex B, page 133 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

ABM710_B041



(1)	Spigot fitting	Ø38x3.6	EN 10219-S275JOH
(2)	Tube	Ø48.3x4.0	EN 10219-S235JRH
(3)	U-bracket	t=4	EN 10111-DD13
(4)	Bolt	Ø14x77	Strength 8.8 ISO 898-1
(5)	Locking pin	2.8	EN 11024
(6)	Marking		
(7)	Shown without bolt and locking pin!		

Size [m]	Weight [kg]
-	1.8

ALFIX GmbH
63828 Edelbach
09603 Großschirma

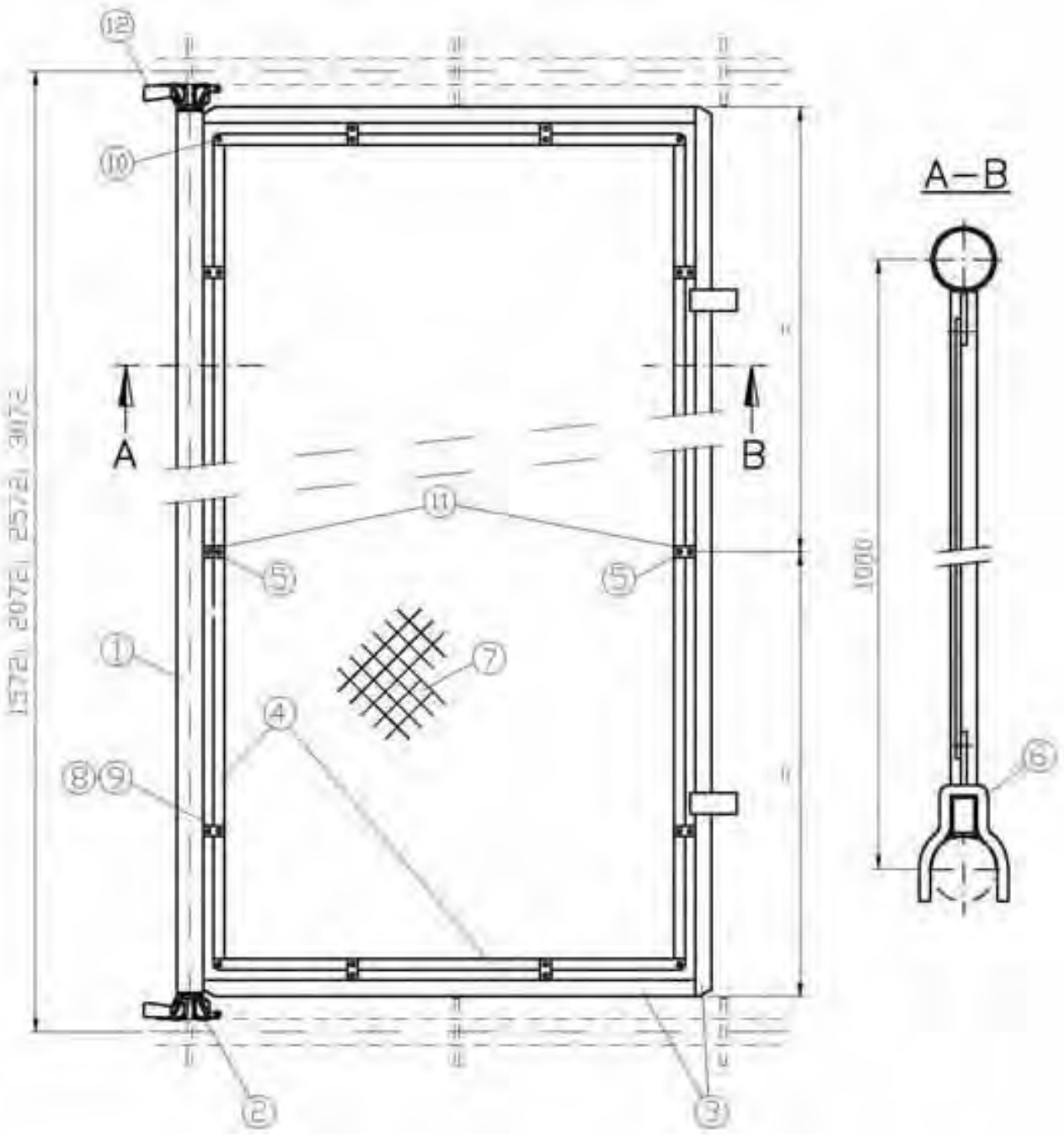
ALBLITZ MODUL

Spigot fitting for lattice girder

according to Z-8.22-64

Annex B, page 134 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

ABM710_B042



(1)	Tube	ø48.3x2.3	EN 10219-S235JRH
(2)	Head piece,		see ABM710-B106
(3)	Rectangular tube	30x20x2	EN 10025-2-S235JR
(4)	Safety meshguard bar	▭ 20x4	EN 10025-2-S235JR
(5)	Mounting lug	▭ 20x4	EN 10025-2-S235JR
(6)	Mounting bracket	▭ 40x8	EN 10025-2-S235JR
(7)	Wire netting	50x2.5x900	DIN EN 10223-6
(8)	Hexagon screw	M6x16	Strength 8.8 ISO 898-1
(9)	Locking nut	M6	Strength 8 EN 20898-2
(10)	Blind rivet, stainless steel	A5x16	ISO 16585
(11)	at 1.57m, without a middle lug		
(12)	Marking		

Size [m]	Weight [kg]
1.57	16.5
2.07	19.5
2.57	23.0
3.07	26.3

ALFIX GmbH
63828 Edelbach
09603 Großschirma

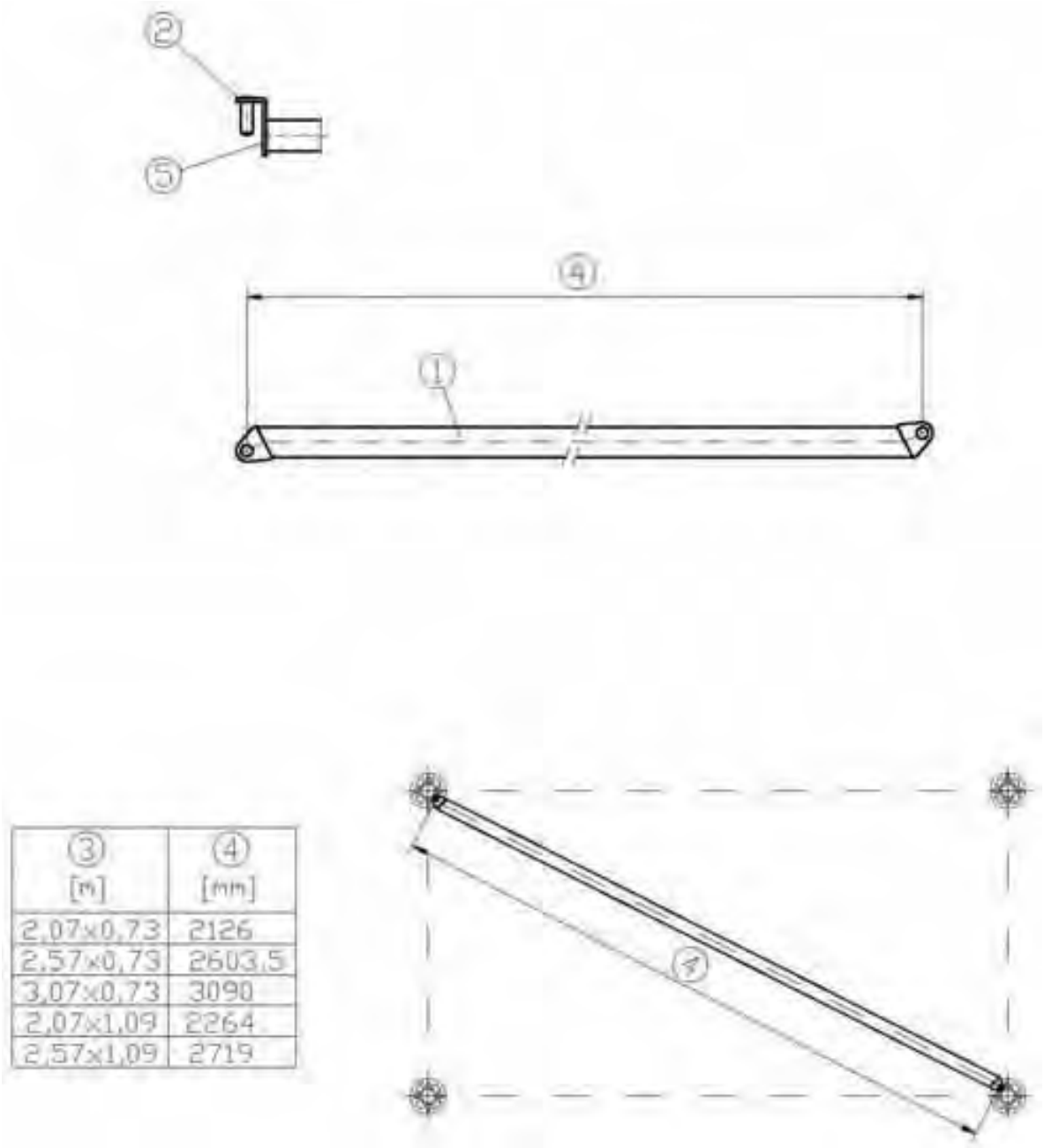
ALBLITZ MODUL

Side safety meshguard

according to Z-8.22-64

Annex B, page 135 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

ABM710_B044



(1)	Tube	Ø42.4x2.5	EN 10219-S235JRH
(2)	Suspension,		see ABM710-B111
(3)	Bay		
(4)	Size a		
(5)	Marking		

Size [m]	Weight [kg]
2.13	5.9
2.60	6.9
3.09	7.9
2.26	6.2
2.72	7.2

ALFIX GmbH
63828 Edelbach
09603 Großschirma

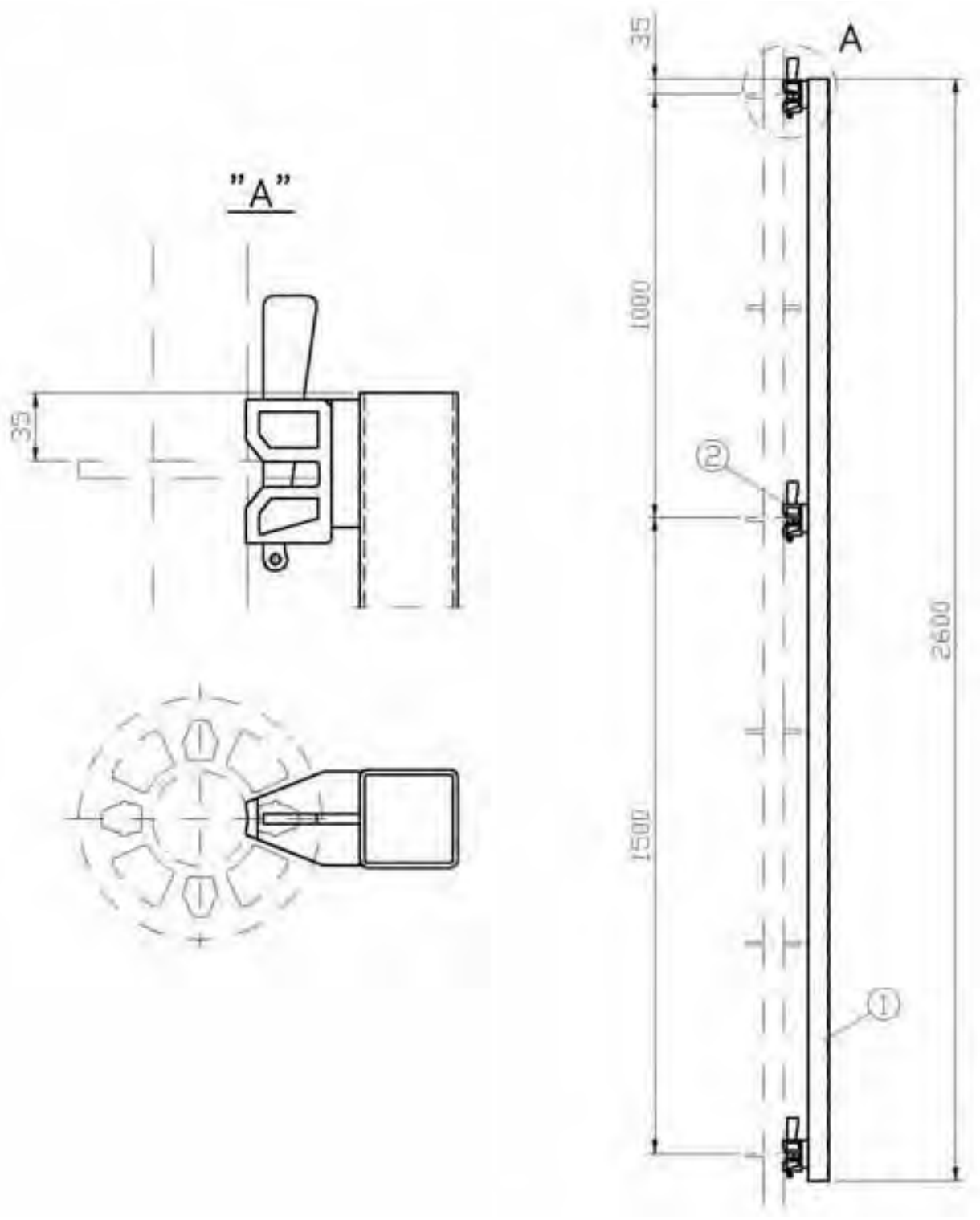
ALBLITZ MODUL

Horizontal diagonal brace

according to Z-8.22-64

Annex B, page 136 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

ABM710_B047



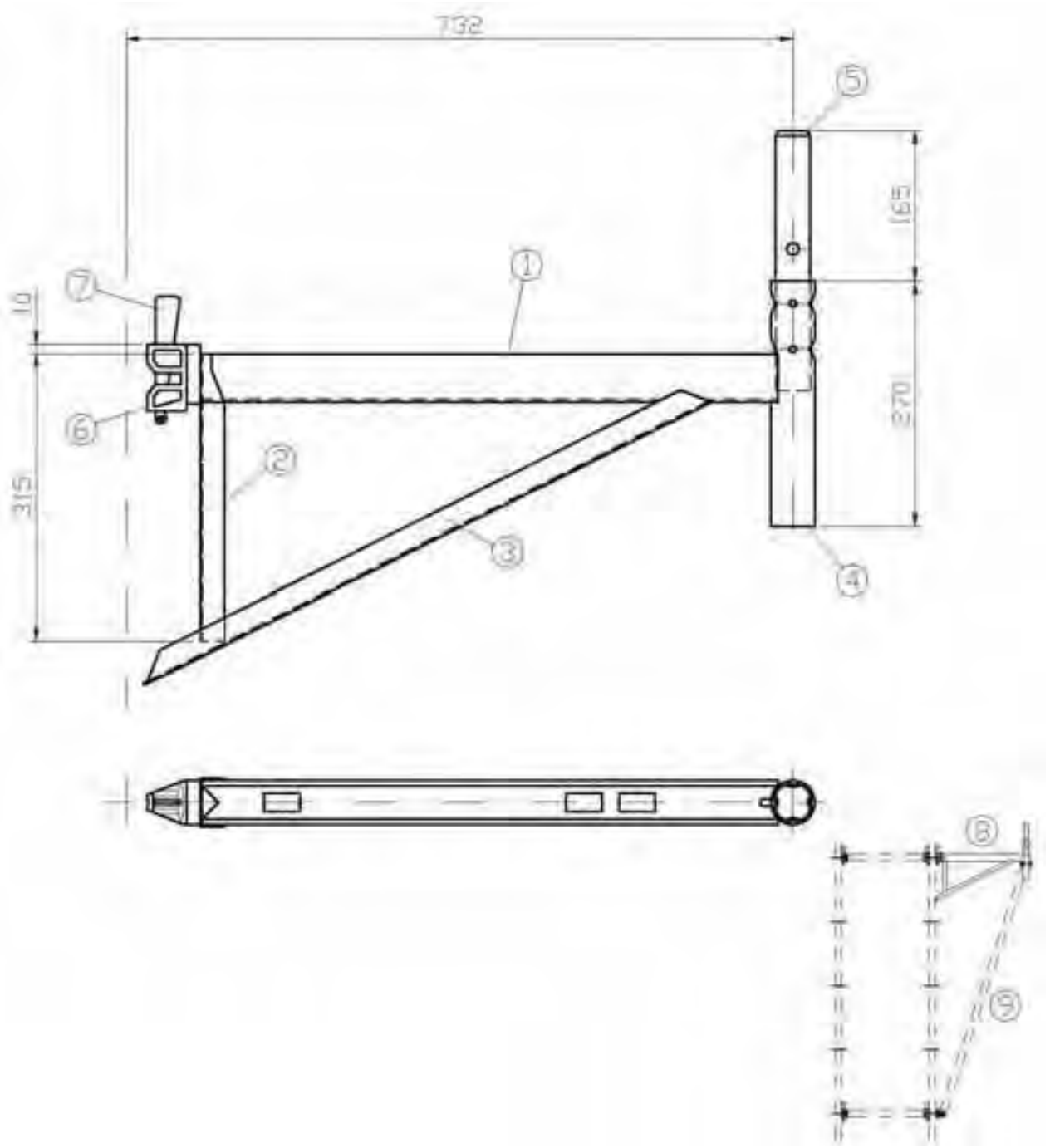
(1)	Square tubing	50x2.5	EN 10025-2-S235JR
(2)	Head piece,		see ABM710-B008

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Post with wedge heads

according to Z-8.22-64



(1)	U-profile	49x53x2.5	EN 10025-2-S235JR		Size [m]	Weight [kg]
(2)	Supporting U	49x25x2.5	EN 10025-2-S235JR		0.39	3.9
(3)	Bracing U	54x27x2.5	EN 10025-2-S235JR			
(4)	Tube	Ø48.3x3.2	EN 10219-S235JRH	ReH≥320N/mm^2		
(5)	Spigot fitting	Ø38x3.6	EN 10219-S275JOH			
(6)	Head piece + wedge,		see ABM710-B008			
(7)	Marking					
(8)	Bracket					
(9)	Bracket brace					

ALFIX GmbH
63828 Edelbach
09603 Großschirma

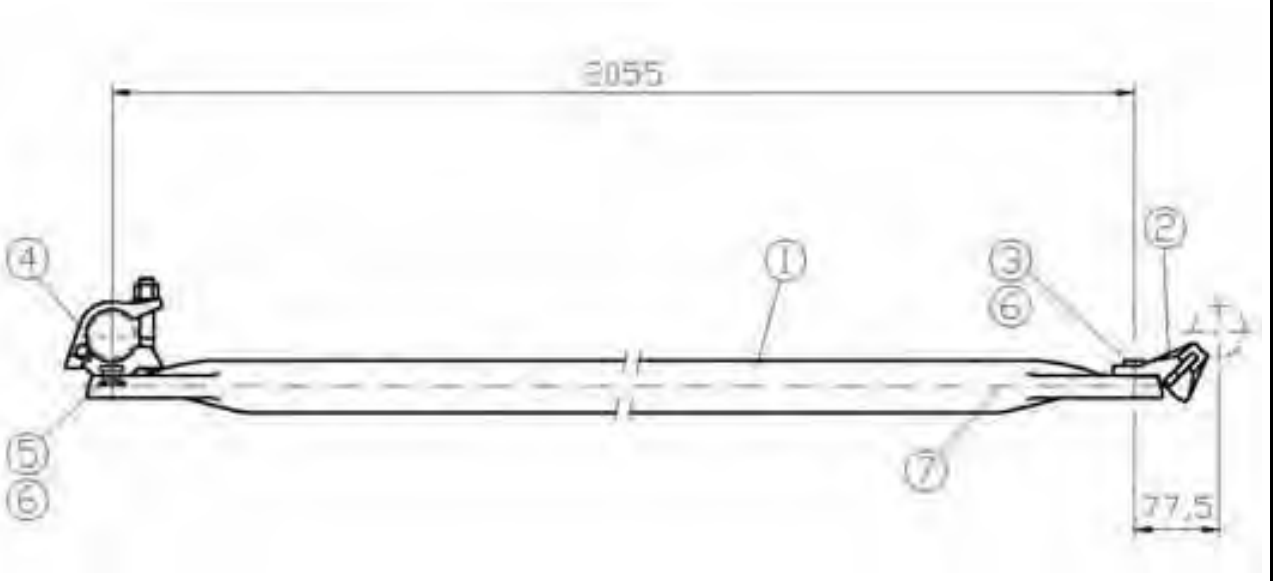
ALBLITZ MODUL

U-bracket 0.73m

according to Z-8.22-64

Annex B, page 138 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

ABM710_B069



(1)	Tube	Ø48.3x2.3	EN 10219-S235JRH
(2)	Head piece + wedge,		see ABM710-B109
(3)	Cylinder head rivet	Ø16x25	EN 10263-2
(4)	Halfcoupler with screw top		acc. to approval z-8.331-882
(5)	Cylinder head rivet	Ø16x20	EN 10263-2
(6)	riveted rotatable		
(7)	Marking		

Size [m]	Weight [kg]
2.05	8.8

ALFIX GmbH
63828 Edelbach
09603 Großschirma

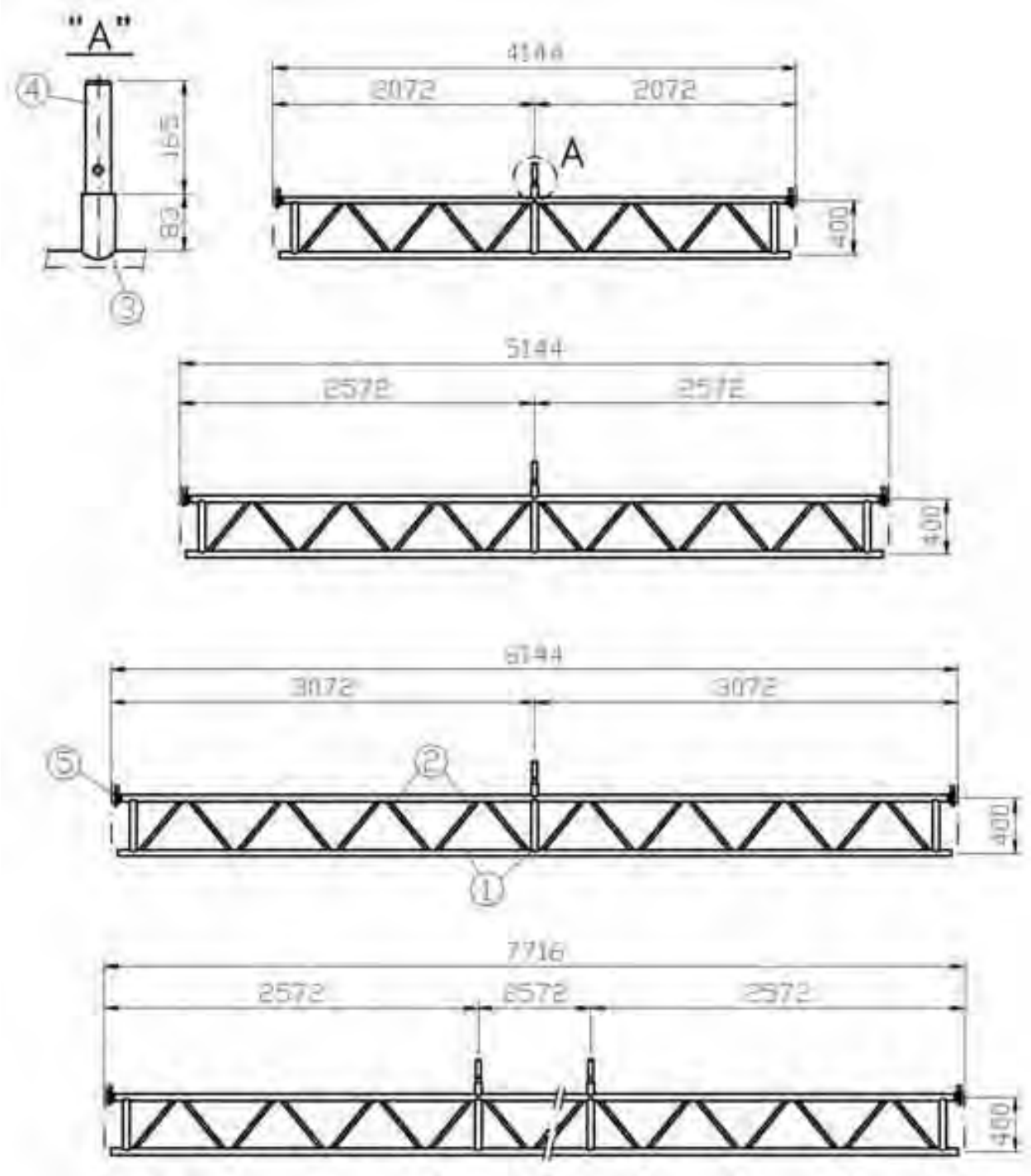
ALBLITZ MODUL

Bracket brace 2.05m

according to Z-8.22-64

Annex B, page 139 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

ABM710_B070



(1)	Tube	Ø48.3x3.2	EN 10219-S235JRH	ReH≥320N/mm^2
(2)	Rectangular tube	30x20x2	EN 10025-S235JR	
(3)	Tube	Ø48.3x4.0	EN 10219-S235JRH	
(4)	Spigot fitting	Ø38x3.6	EN 10219-S275JOH	
(5)	Head piece + wedge,		see ABM710-B106; ABM710-B110	
(6)	Marking			

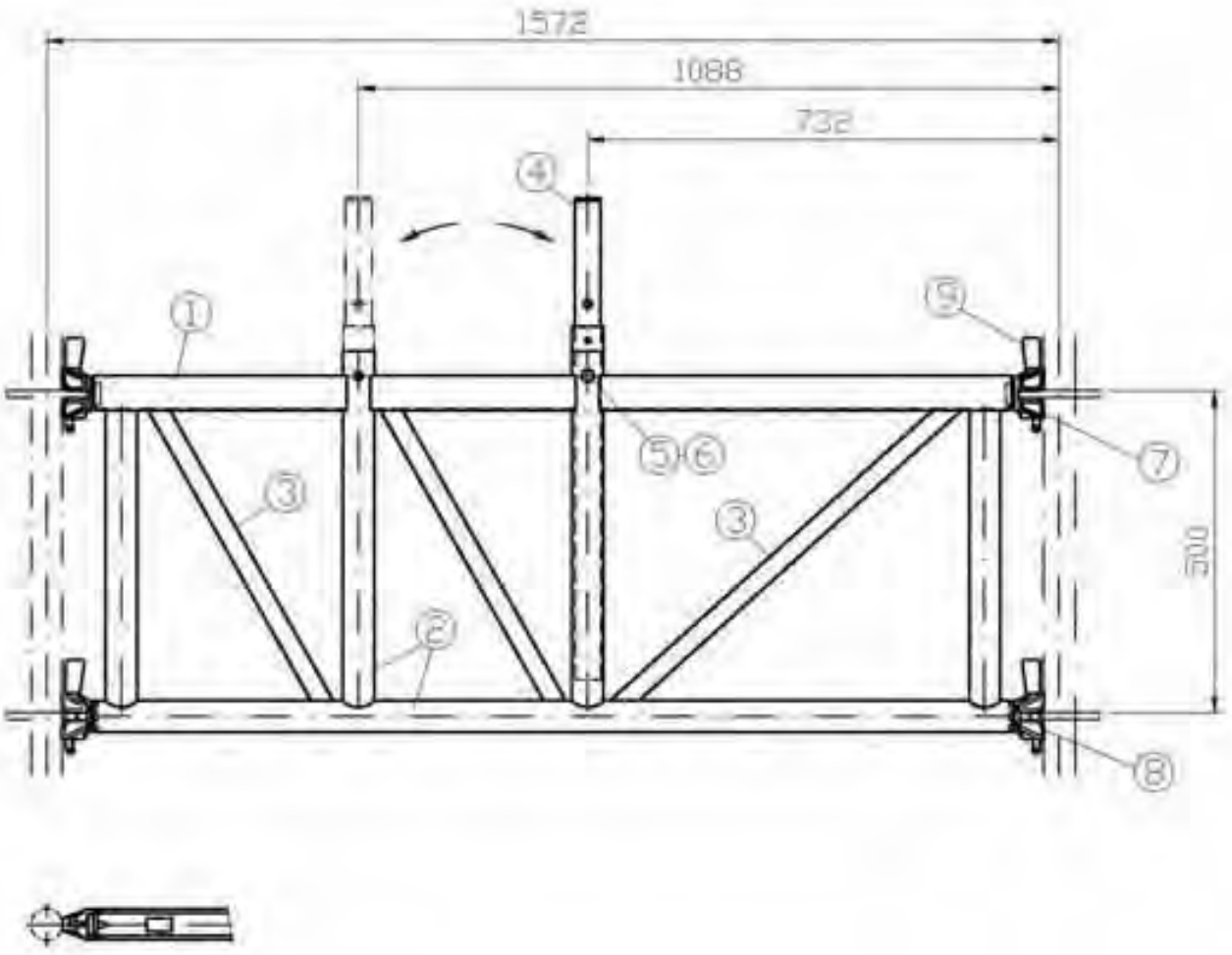
Size [m]	Weight [kg]
4.14	41.6
5.14	51.5
6.14	60.0
7.71	77.0

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

O-lattice girder

according to Z-8.22-64



(1)	U-profile,		see ABM710-B034	
(2)	Tube	Ø48.3x3.2	EN 10219-S235JRH	ReH≥320N/mm^2
(3)	Rectangular tube	30x20x2	EN 10025-2-S235JR	
(4)	Spigot fitting	Ø40x3.5	EN 10219-S235JRH	
(5)	Hexagon screw	M12x60	Strength 8.8 ISO 898-1	
(6)	Hexagon nut	M12	Strength 8 EN 20898-2	
(7)	Head piece U + wedge,		see ABM710-B107; ABM710-B110	
(8)	Head piece D + wedge,		see ABM710-B106; ABM710-B110	
(9)	Marking			

Size [m]	Weight [kg]
1.57	21.9

ALFIX GmbH
63828 Edelbach
09603 Großschirma

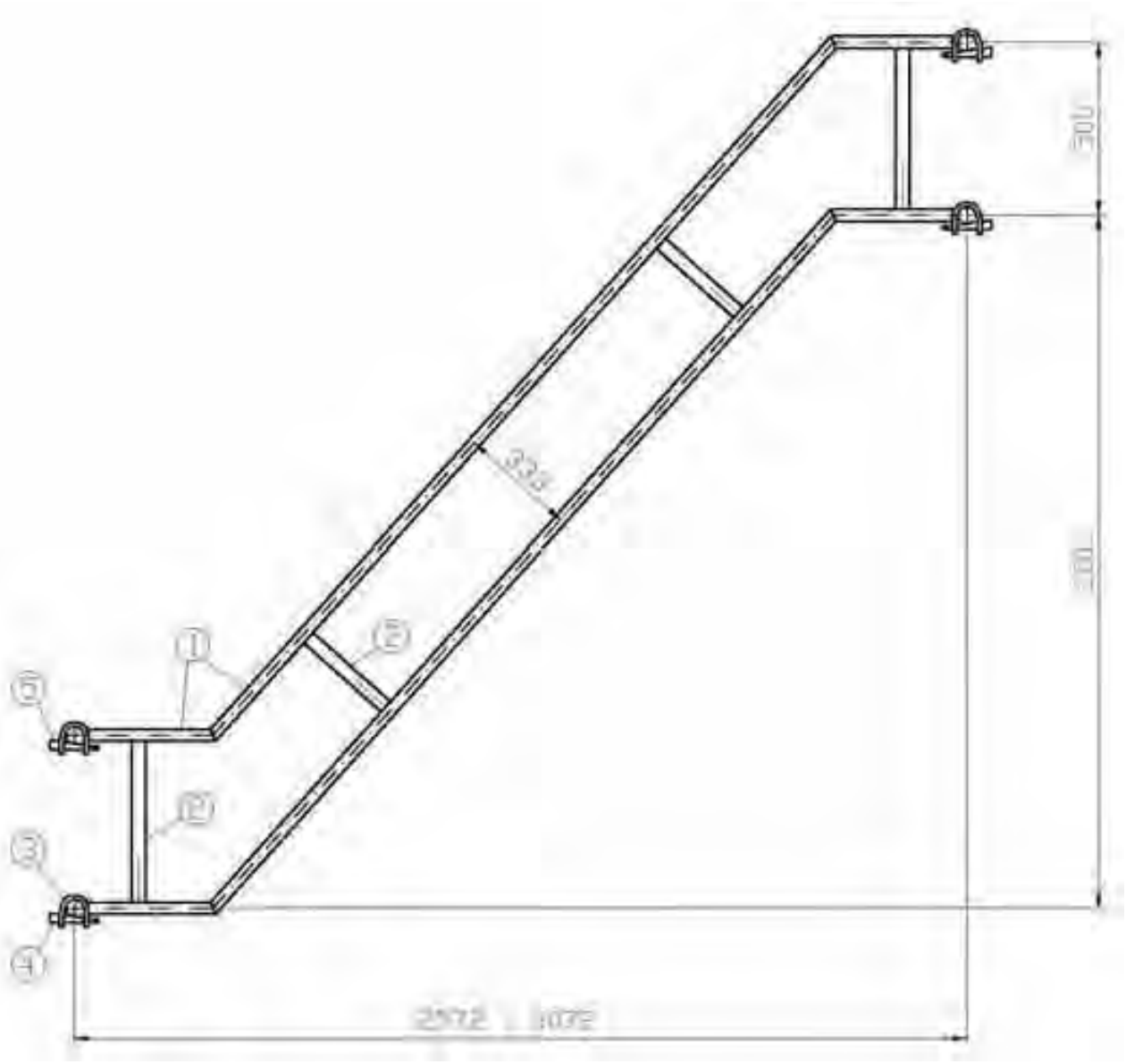
ALBLITZ MODUL

U-passageway girder

according to Z-8.22-64

Annex B, page 141 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

ABM710_B072



(1)	Tube	ø33.7x2.25	EN 10219-S235JRH
(2)	Rectangular tube	40x20x2	EN 10025-S235JR
(3)	Locking U	t=8	EN 10025-S235JR
(4)	Wedge,		see ABM710-B110
(5)	Marking		

Size [m]	Weight [kg]
2.57	18.1
3.07	20.1

ALFIX GmbH
63828 Edelbach
09603 Großschirma

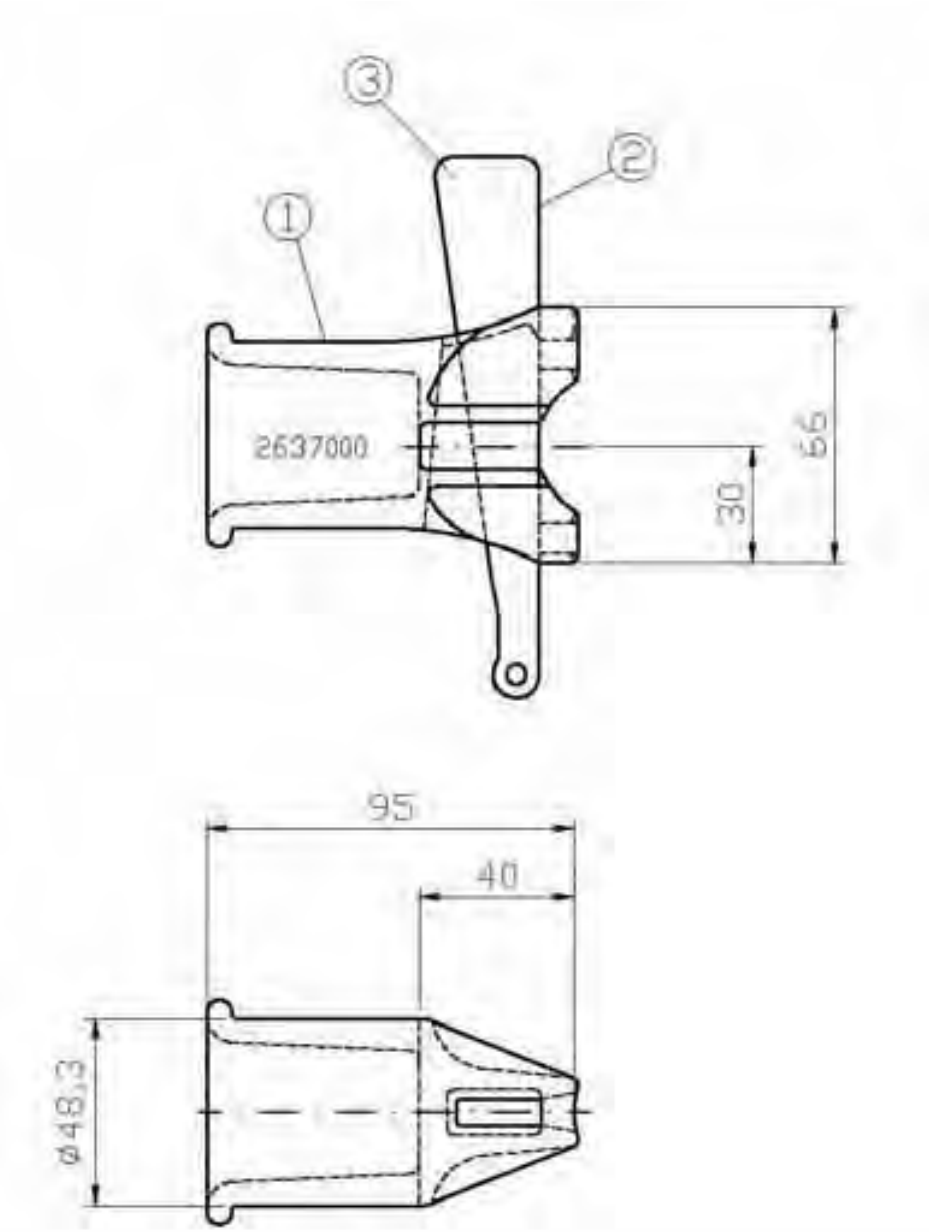
ALBLITZ MODUL

Stair guardrail

according to Z-8.22-64

Annex B, page 142 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

ABM710_B073



Size [m]	Weight [kg]
	0.7

(1) Head piece EN 1562-GJMW-450-7
(2) Wedge, see ABM710-B110
(3) Marking

ALFIX GmbH
63828 Edelbach
09603 Großschirma

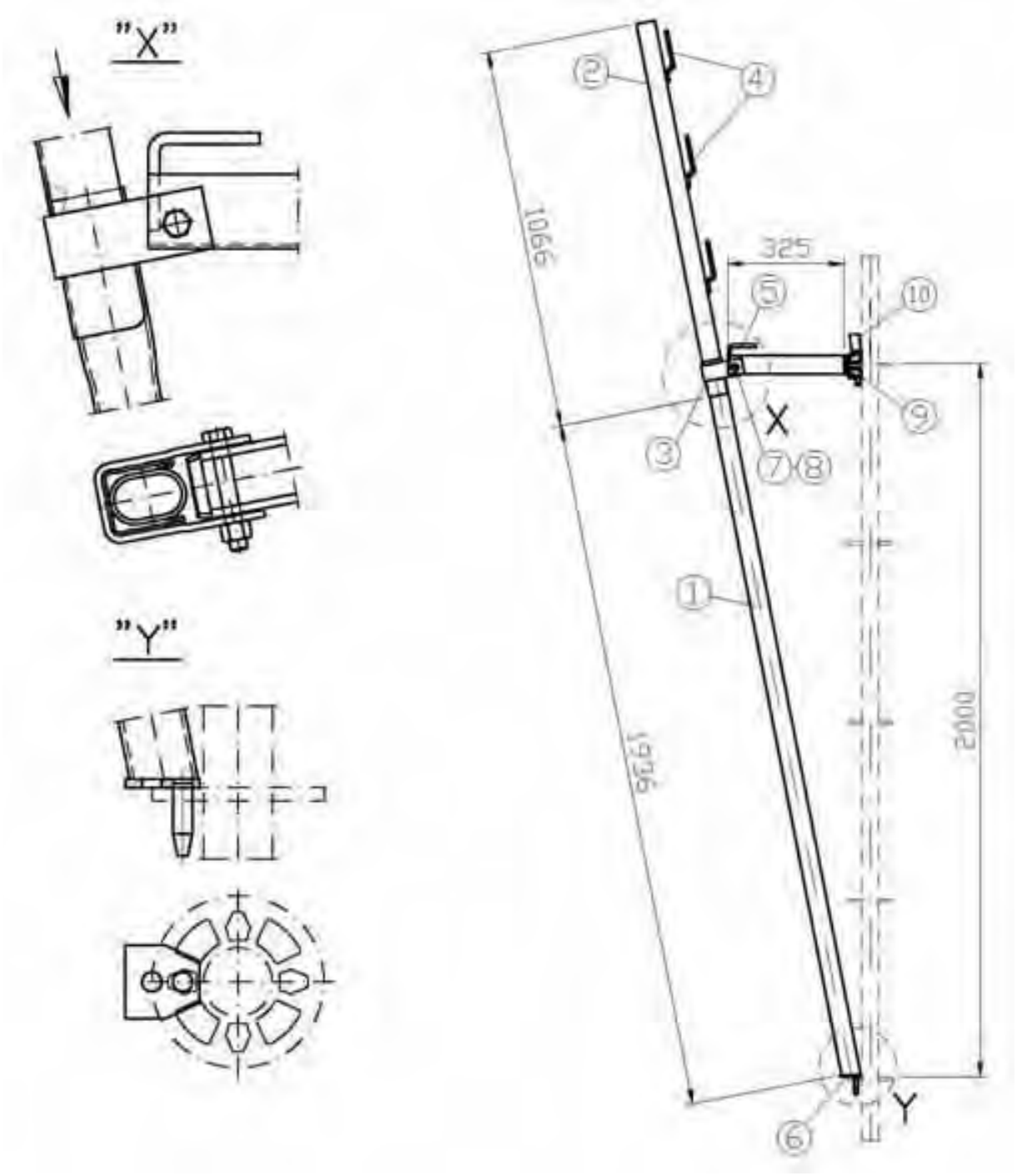
ALBLITZ MODUL

Stair guardrail holder

according to Z-8.22-64

Annex B, page 143 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

ABM710_B074



(1)	Tube	Ø48.3x3.2	EN 10219-S235JRH	ReH≥320N/mm^2
(2)	U-profile	49x53x2.5	EN 10025-2-S235JR	
(3)	U-bracket	45x5	EN 10025-2-S235JR	
(4)	Lug	45x8	EN 10025-2-S235JR	
(5)	Angle	40x8	EN 10025-2-S235JR	
(6)	Plate with bolt		EN 10025-2-S235JR	
(7)	Hexagon screw	M12x80	Strength 8.8 ISO 898-1	
(8)	Locking nut	M12	Strength 8 EN 20898-2	
(9)	Head piece + wedge,		see ABM710-B107; ABM710-B110	
(10)	Marking			

Size [m]	Weight [kg]
	14.6

ALFIX GmbH
63828 Edelbach
09603 Großschirma

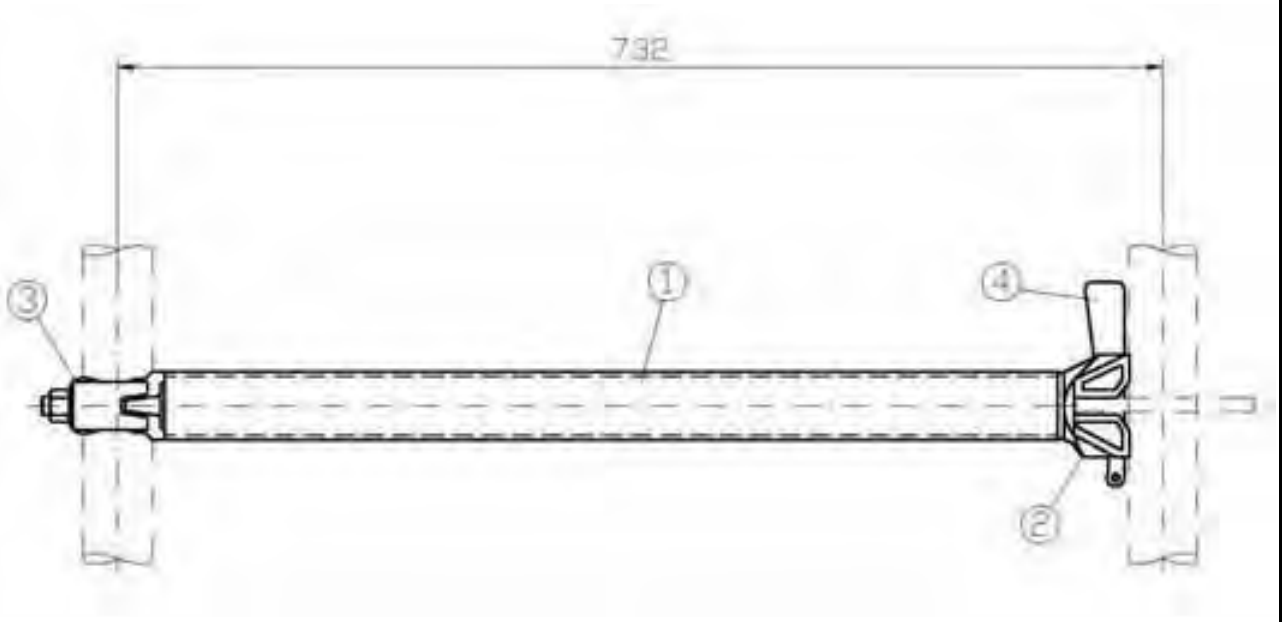
ALBLITZ MODUL

U-protective shelter bracket T7

according to Z-8.22-64

Annex B, page 144 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

ABM710_B078



				Size [m]	Weight [kg]
(1)	Tube	Ø48.3x3.2	EN 10219-S235JRH ReH≥320N/mm^2	0.73	3.4
(2)	Head piece + wedge,		see ABM710-B106 + ABM710-B110		
(3)	Halfcoupler with screw top		acc. to approval Z-8.331-882		
(4)	Marking				

ALFIX GmbH
63828 Edelbach
09603 Großschirma

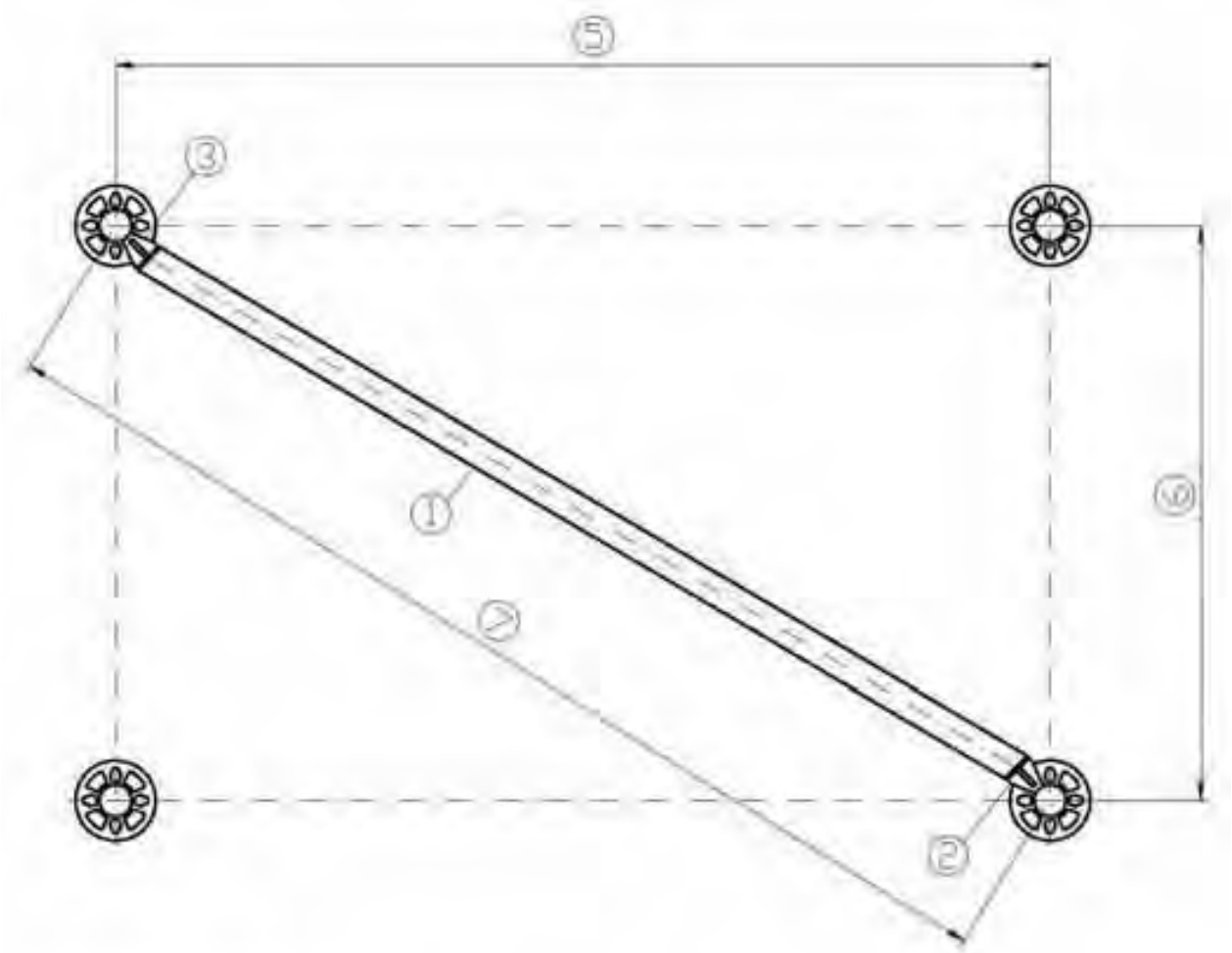
ALBLITZ MODUL

O-ledger with halfcoupler

according to Z-8.22-64

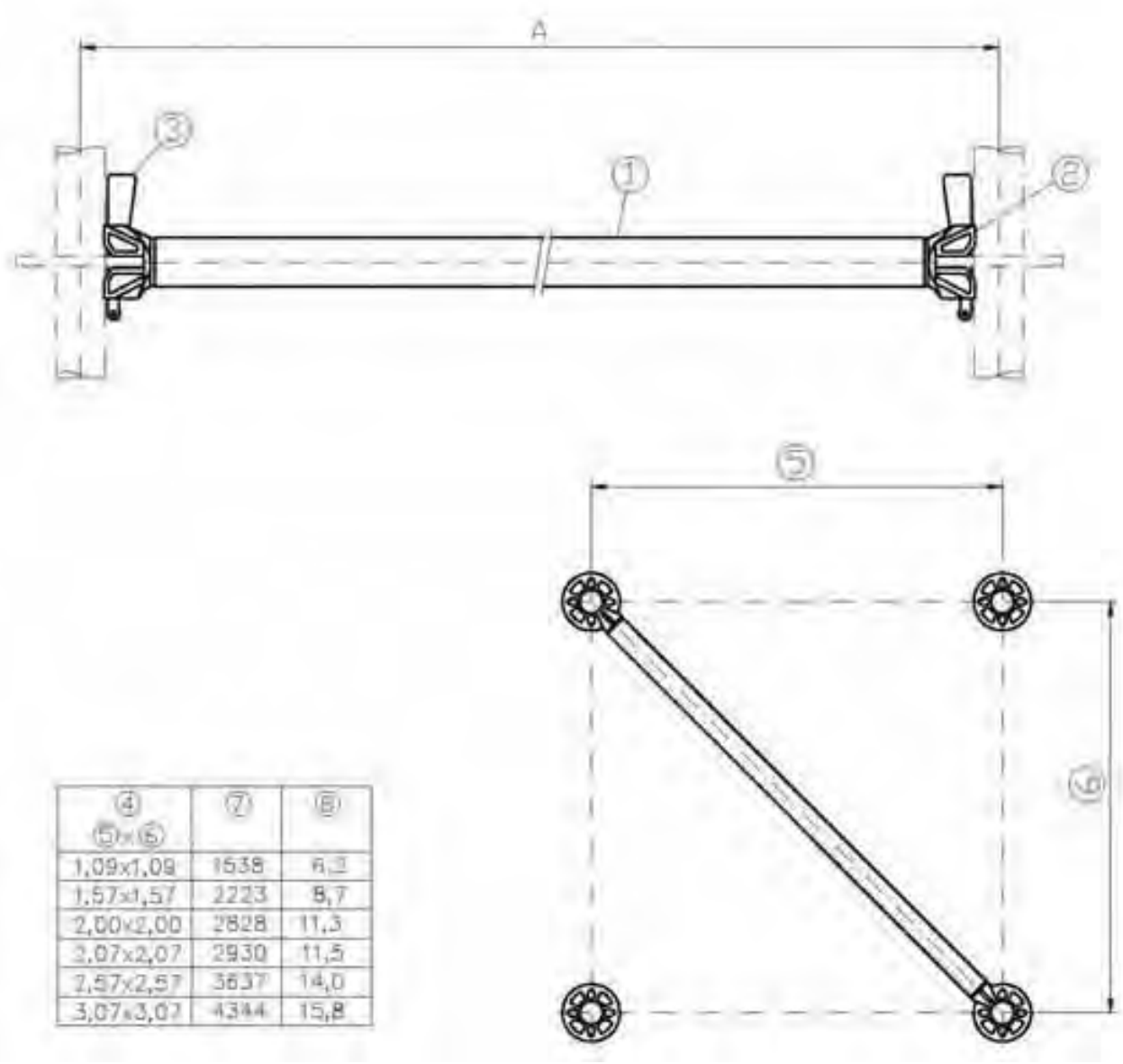
Annex B, page 145 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

ABM710_B079



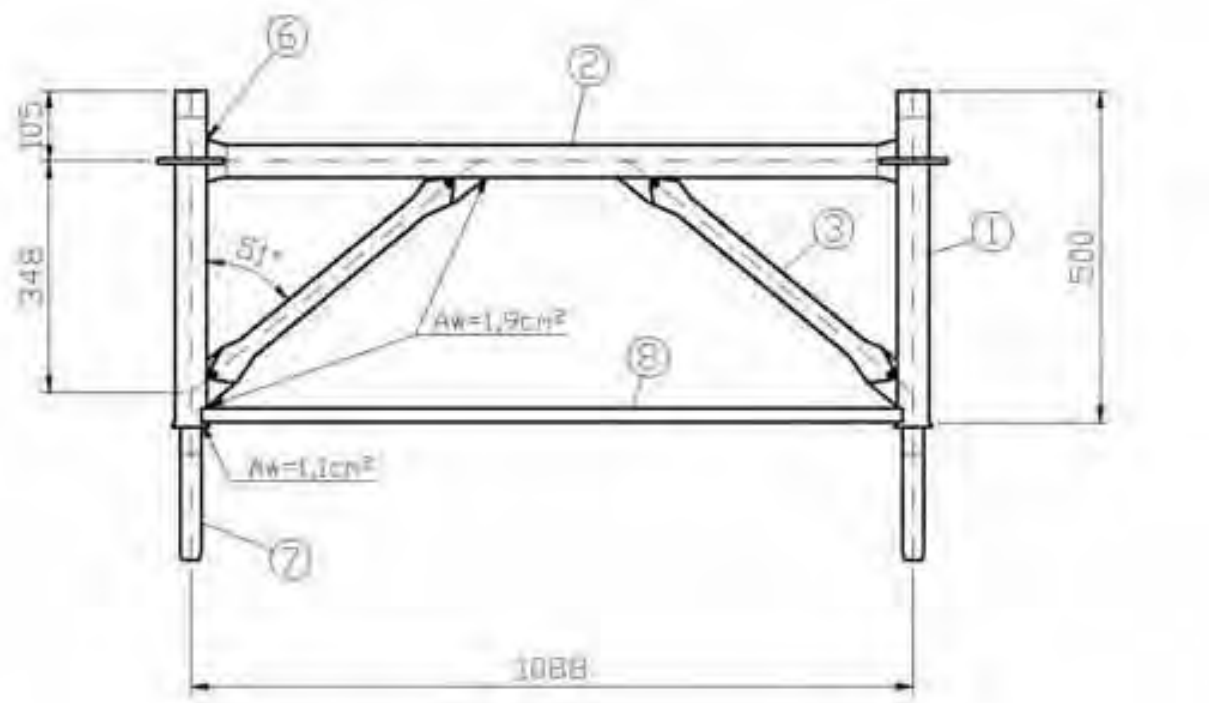
④ ⑤×⑥	⑦	⑧
1,57x1,09	1912	8,9
2,07x1,09	2340	8,4
2,57x1,09	2793	9,7
3,07x1,09	3259	13,1
2,07x0,73	2198	9,0
2,57x0,73	2674	10,8
3,07x0,73	3158	12,3

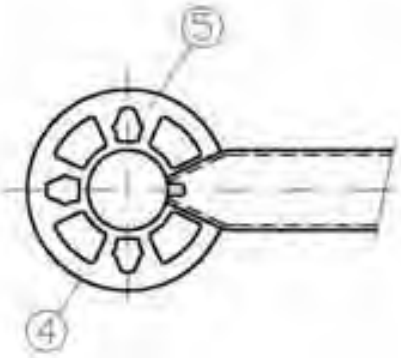
(1)	Tube	Ø48.3x2.7	EN 10219-S235JRH	ReH≥320N/mm^2
(2)	Head piece,		see ABM710-B106	
(3)	Marking			
(4)	Bay LxB [m]			
(5)	L (Bay length)			
(6)	B (Bay width)			
(7)	Size 'A'[mm]			
(8)	Weight [kg]			



④ ⑤x⑥	⑦	⑧
1,09x1,09	1538	6,3
1,57x1,57	2223	8,7
2,00x2,00	2828	11,3
2,07x2,07	2930	11,5
2,57x2,57	3637	14,0
3,07x3,07	4344	15,8

(1) Tube Ø48.3x3.2 EN 10219-S235JRH ReH≥320N/mm^2
(2) Head piece, see ABM710-B106
(3) Marking
(4) Bay LxB [m]
(5) L (Bay length)
(6) B (Bay width)
(7) Size 'A'[mm]
(8) Weight [kg]





(6)

max. torque $M_{R.d}$ = 134 kNcm
Normal force $N_{R.d}$ = 89.5 kN
Lateral force $V_{R.d}$ = 43.5 kN

$M_{Vd} = \left(1-\left[2\times\frac{V_d}{V_{Rd}}-1\right]^2\right)\times M_{Rd}$ für $V_d > 0.5\times V_{Rd}$

$M_{Vd} = M_{Rd}$ für $V_d \le 0.5\times V_{Rd}$

$M_d \le M_{Vd}\times\left(1-\left[\frac{N_d}{N_{Rd}}\right]^2\right)$

					Size [m]	Weight [kg]
(1)	Tube	Ø48.3x3.2	EN 10219-S355J2H	(S355MH)	0.50	13.0
(2)	Tube	Ø48.3x2.7	EN 10219-S235JRH	ReH≥320N/mm²		
(3)	Tube	Ø33.7x2.25	EN 10219-S235JRH			
(4)	Perforated disc		Version K2000+			
(5)	Marking					
(6)	Spigot fitting, compressed		(acc. Z.8.1-16.2)			
(7)	Rectangular tubing	40x20x2	EN 10025-2-S235JR	ReH≥320N/mm²		

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

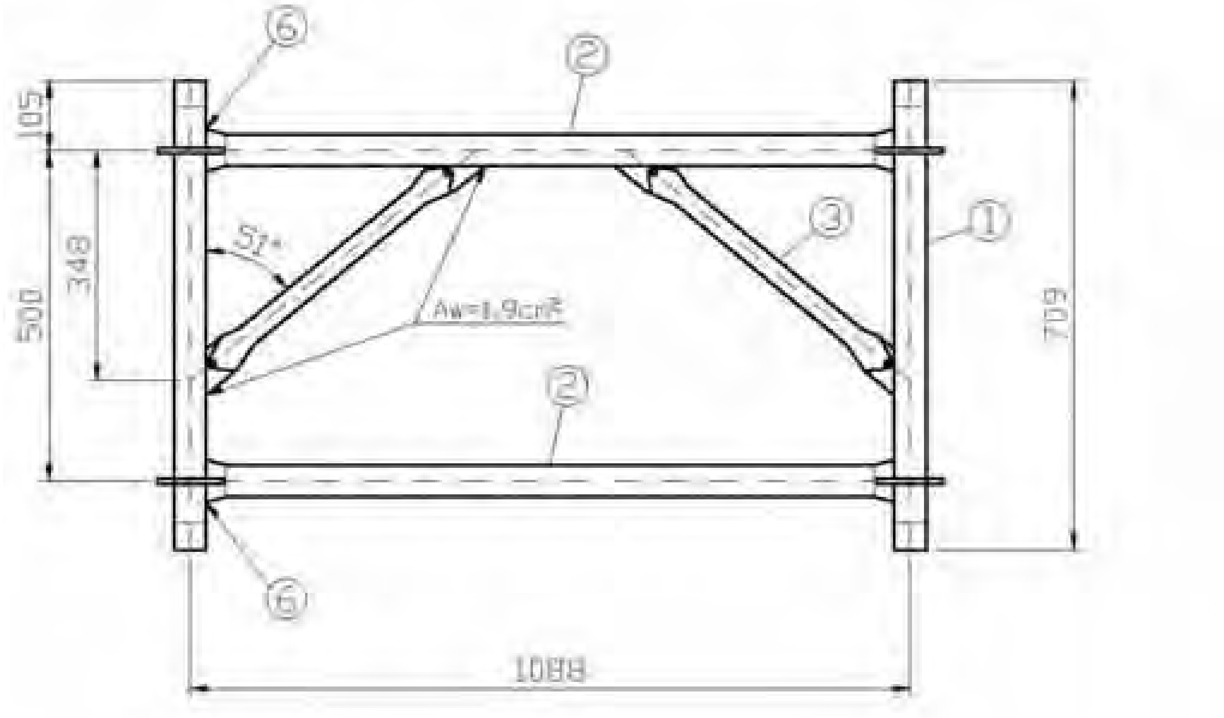
AR TG-60 frame

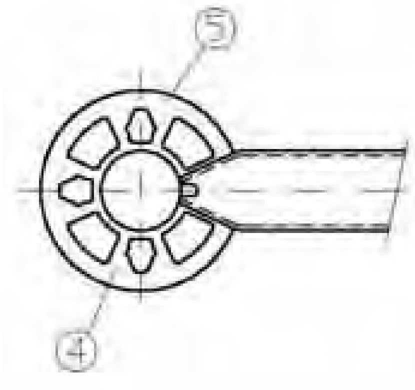
0.50x1.09m

according to Z-8.22-64

Annex B, page 148 to
the national technical
approval Z-8.22-913
of 7.May 2012
Deutsches Institut für Bautechnik

ABM710_B084





(6)

max. torque MR.d = 134 kNcm
Normal force NR.d = 89.5 kN
Lateral force VR.d = 43.5 kN

$$M_{eV,d} = \left(1-\left[B\cdot\left(\frac{V_d}{V_{R,d}}-1\right)\right]^2\right)\times M_{R,d} \text{ für } V_d > 0.5\times V_{R,d}$$

$$M_{eV,d} = M_{R,d} \text{ für } V_d \leq 0.5\times V_{R,d}$$

$$M_d \leq M_{eV,d}\times\left(1-\left[\frac{N_d}{N_{R,d}}\right]^2\right)$$

Size [m]	Weight [kg]
0.71	15.9

(1) Tube Ø48.3x3.2 EN 10219-S355J2H (S355MH)
(2) Tube Ø48.3x2.7 EN 10219-S235JRH ReH≥320N/mm2
(3) Tube Ø33.7x2.25 EN 10219-S235JRH
(4) Perforated discs, congruent! Version K2000+
(5) Marking

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

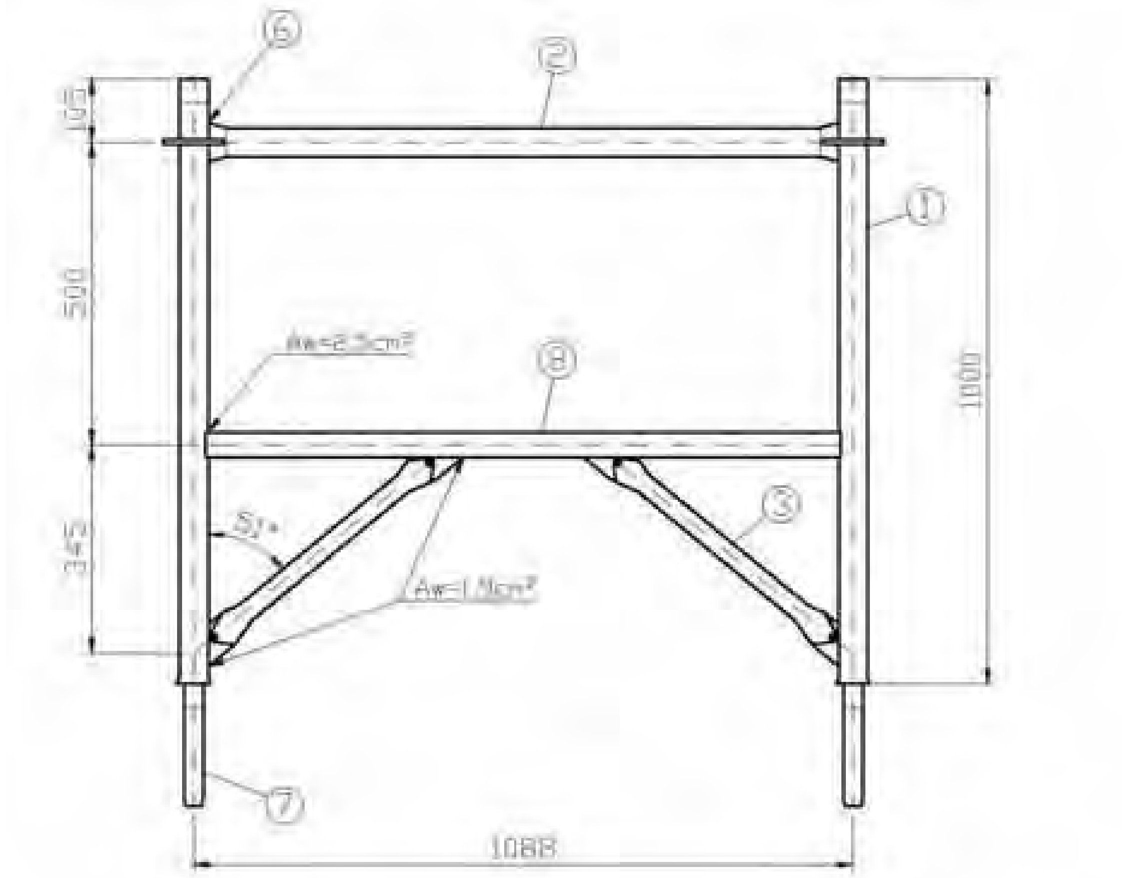
AR TG-60 frame

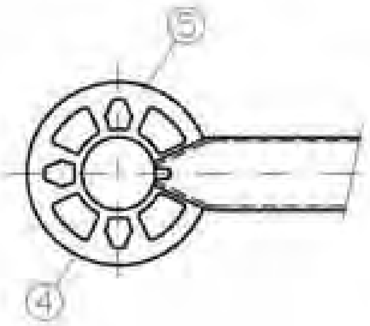
0.71x1.09m

according to Z-8.22-64

Annex B, page 149 to the national technical approval Z-8.22-913 of 7. May 2012 Deutsches Institut für Bautechnik

ABM710_B085





(6)

max. torque MR.d = 134 kNcm
Normal force NR.d = 89.5 kN
Lateral force VR.d = 43.5 kN

$M_{R,d,V} = \left(1 - \left[2 \times \frac{V_d}{V_{R,d}} - 1\right]^2\right) \times M_{R,d}$ für $V_d > 0.5 \times V_{R,d}$

$M_{R,d,V} = M_{R,d}$ für $V_d \leq 0.5 \times V_{R,d}$

$M_d \leq M_{R,d,V} \cdot \left(1 - \left[\frac{N_d}{N_{R,d}}\right]^2\right)$

(1)	Tube	Ø48.3x3.2	EN 10219-S355J2H	(S355MH)
(2)	Tube	Ø48.3x2.7	EN 10219-S235JRH	ReH≥320N/mm^2
(3)	Tube	Ø33.7x2.25	EN 10219-S235JRH	
(4)	Perforated disc		Version K2000+	
(5)	Marking			
(6)	Spigot fitting, compressed		(acc. Z-8.1-16.2)	
(7)	Tube	Ø42.4x2.5	EN 10219-S235JRH	

Size [m]	Weight [kg]
1.00	17.7

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

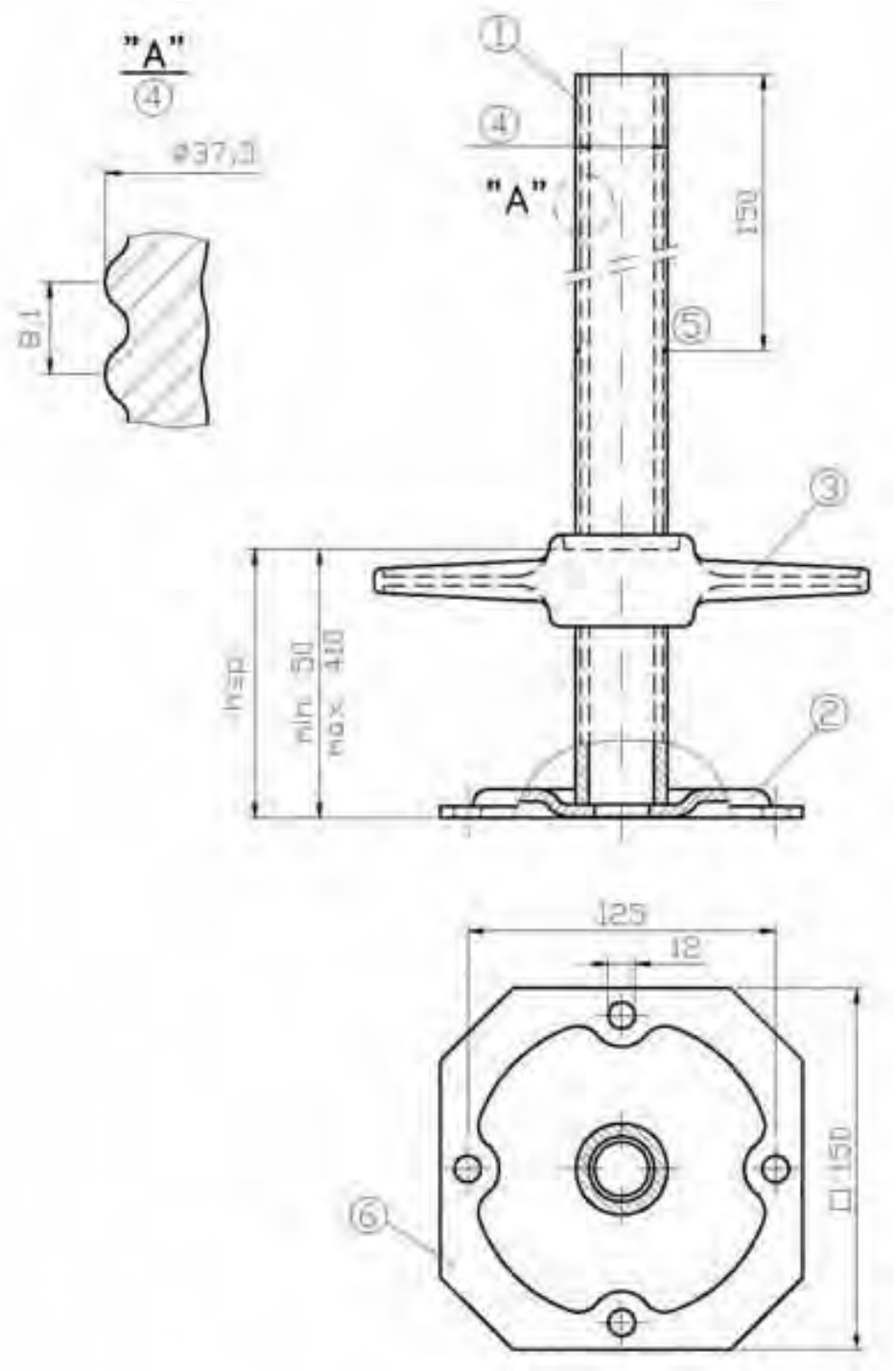
AR TG-60 frame

1.00x1.09m

according to Z-8.22-64

Annex B, page 150 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

ABM710_B086



(1)	Tube	Ø38x4.5	EN 10210-S235JRH
(2)	Base plate acc. too EN 74-3	□150x5	EN 10025-2-S235JR
(3)	Spindle nut		EN 1562-EN-GJMW-400-5 EN 1562-EN-GJMB-450-6 EN 1563-EN-GJS-400-15 EN 10293-GE240+N
(4)	Special thread Ø38x8.1,		see detail
(5)	Thread, impassable due to a notch		
(6)	Marking		

Size [m]	Weight [kg]
0.60	3.6

ALFIX GmbH
63828 Edelbach
09603 Großschirma

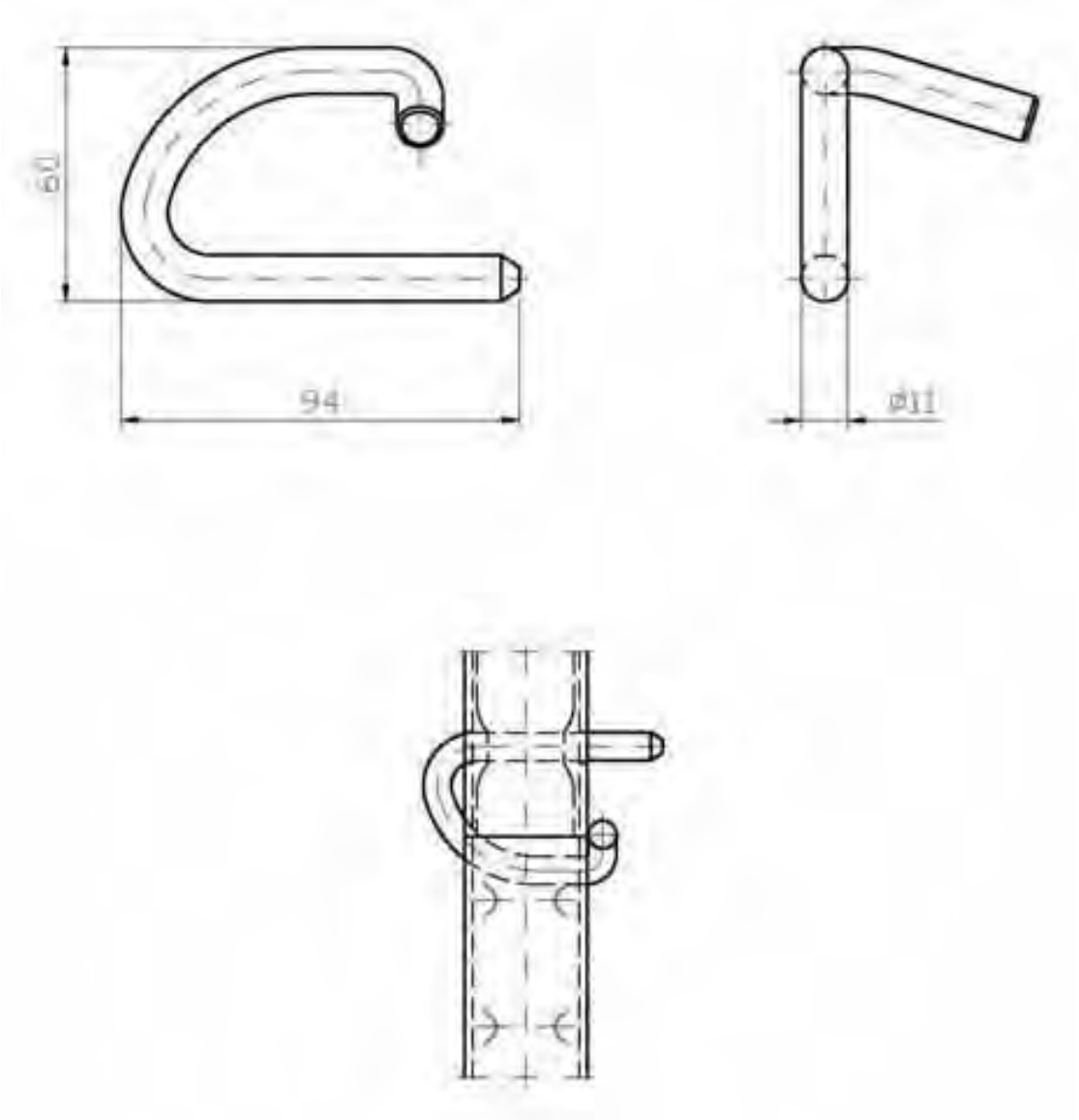
ALBLITZ MODUL

Base jack 60

according to Z-8.1-16.2

Annex B, page 151 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

ABS710-A002_ABM



Size [m]	Weight [kg]
	0.1

(1) Locking clip ø11 EN 10025-2-S235JR
powder-coated, red

ALFIX GmbH
63828 Edelbach
09603 Großschirma

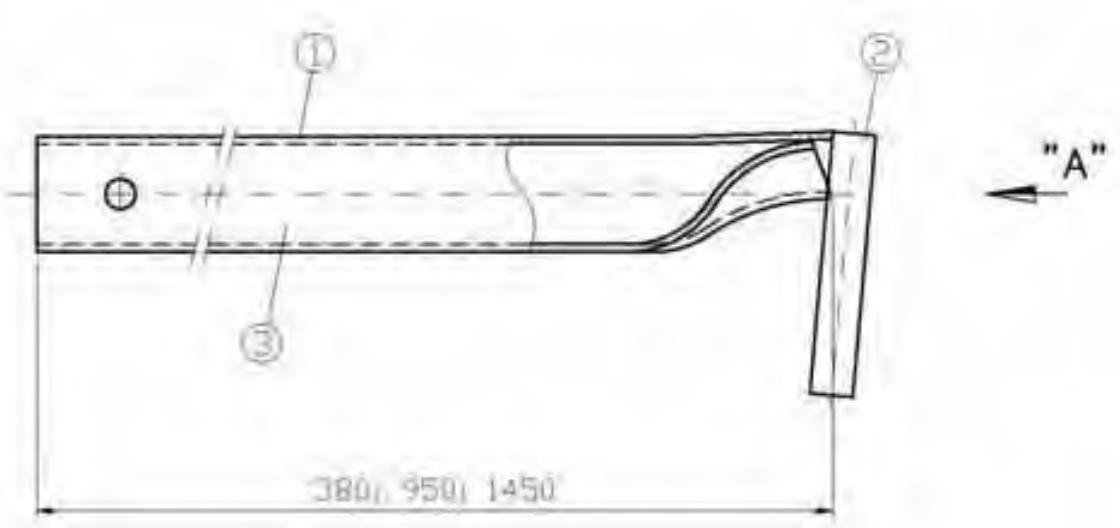
ALBLITZ MODUL

Locking clip, red Ø11mm

according to Z-8.1-16.2

Annex B, page 152 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

ABS710-A009_ABM



	①	
0,38m	ø48,3x2,7 *)	
0,95m 1,45m	ø48,3x3,2	ReH ≥ 320N/mm²

(1) Tube Ø18 EN 10219-S235JRH
(2) Hook EN 10025-2-S355J2
(3) Marking

*) Design until the end of 2007 with t=3.2mm

Size [m]	Weight [kg]
0.38	1.6
0.95	3.7
1.45	5.7

ALFIX GmbH
63828 Edelbach
09603 Großschirma

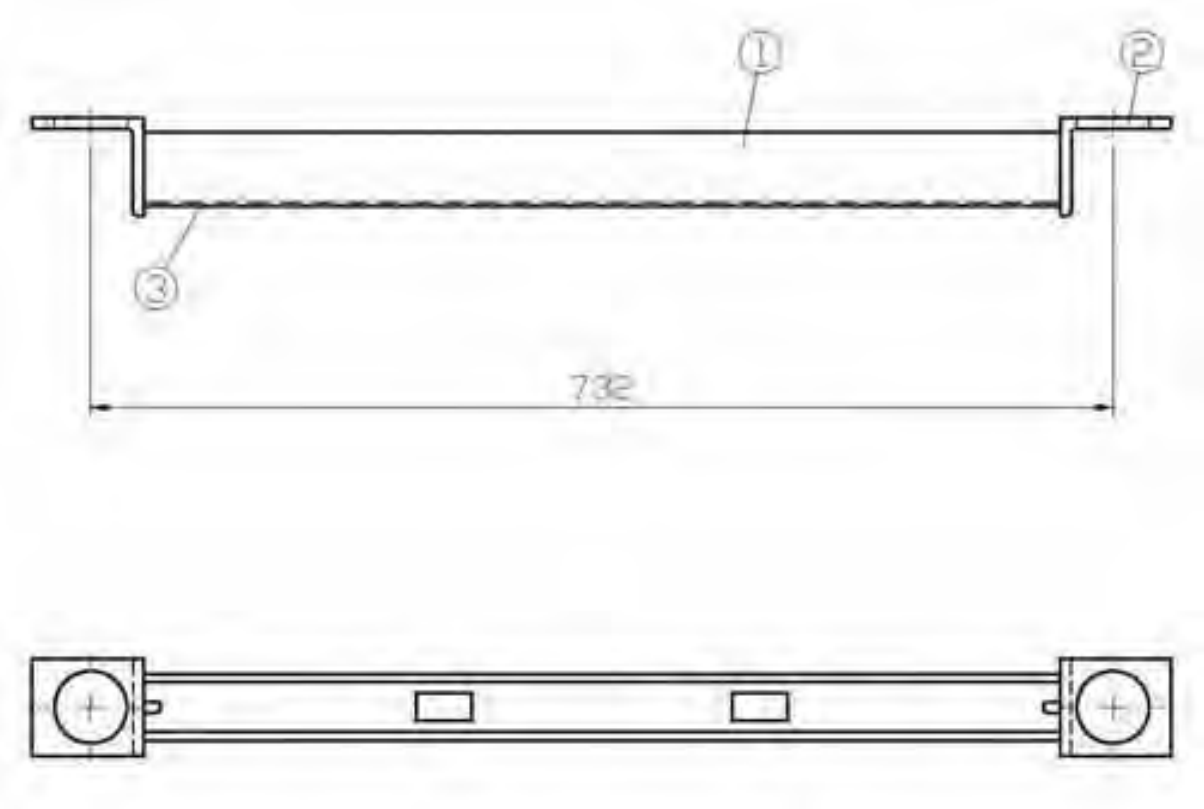
ALBLITZ MODUL

Scaffold retainer

according to Z-8.1-16.2

Annex B, page 153 to
the national technical
approval Z-8.22-913
of 7.May 2012
Deutsches Institut für Bautechnik

ABS710-A048_ABM



(1) U-profile,		see ABM710-B034
(2) Angle	L 80x65x8	EN 10025-2-S235JR
(3) Marking		

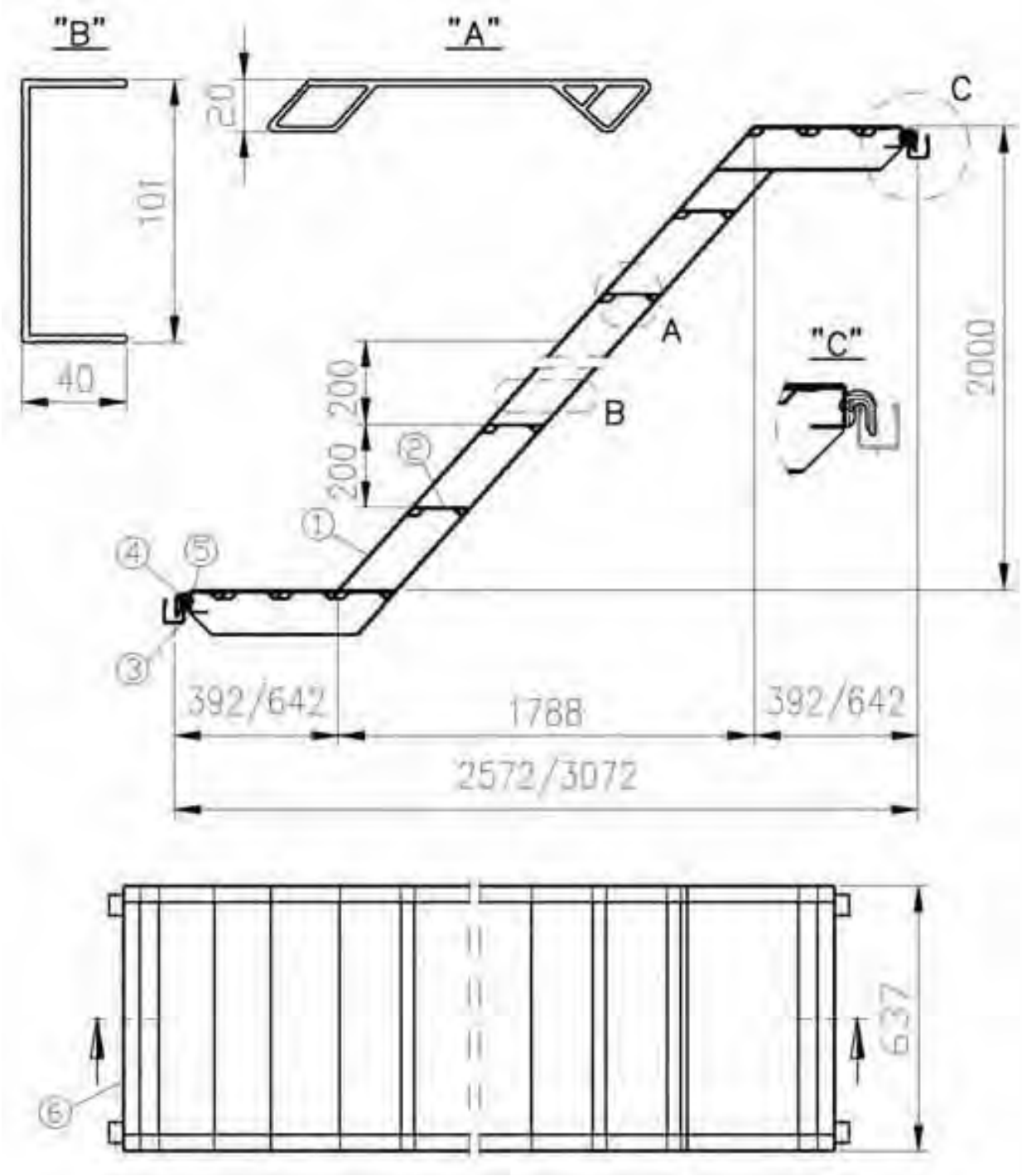
Size [m]	Weight [kg]
0.73	3.1

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

U-lattice girder ledger 0.73m

according to Z-8.1-16.2



(1)	Stair stringer	101x40	EN AW-6082-T5	EN 755-2
(2)	Stair step	140x20	EN AW-6082-T5	EN 755-2
(3)	U-cap	49x40x2.5	EN AW-6063-T66	EN 755-2
(4)	Claw	t=4	EN 10111 DD13	ReH≥240N/mm^2/ Rm≥340N/mm^2
(5)	Truss head rivet	Ø8x18	EN 10263-2	
(6)	Marking			

Size [m]	Weight [kg]
2.57	23.1
3.07	27.5

Useful load: 2 kN/m?

ALFIX GmbH
63828 Edelbach
09603 Großschirma

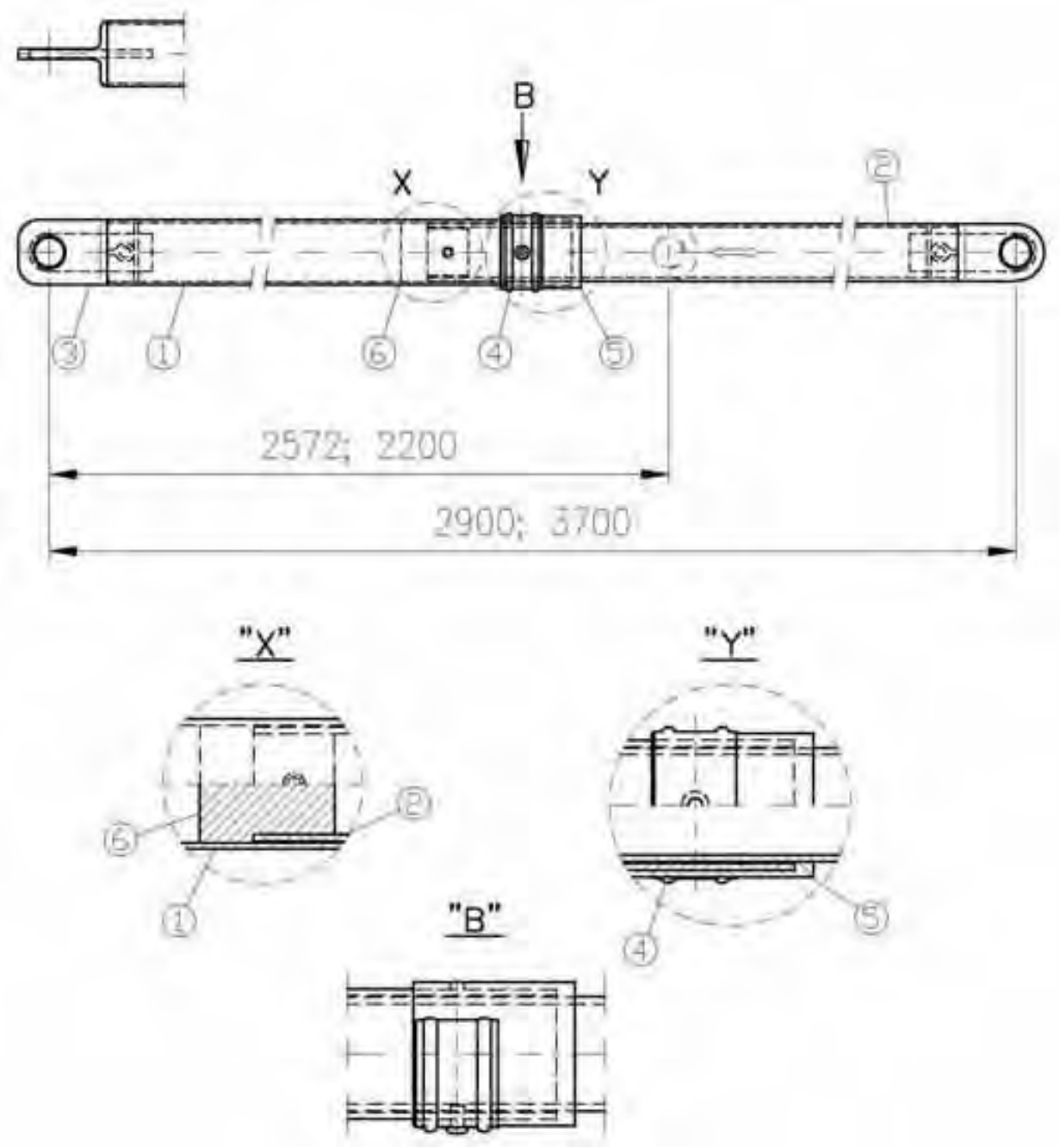
ALBLITZ MODUL

U-aluminium platform stairs T4

according to Z-8.1-16.2

Annex B, page 155 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

ABS710-A093_ABM



					Size [m]	Weight [kg]
(1)	Tube	Ø48.3x2.4	EN AW-6063-T66	EN 755-2		
(2)	Profile	Ø42.3	EN AW-6082-T5	EN 755-2	2.57	3.2
(3)	Guardrail fixture		PP with steel core		3.07	4.0
(4)	Spring cotter pin	30x1-C60S EN 10132-4	11SMnPb30+C	EN 10277-3		
(5)	Guiding cap	Ø48.3	PP			
(6)	Internal guide	Ø35	PP			

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

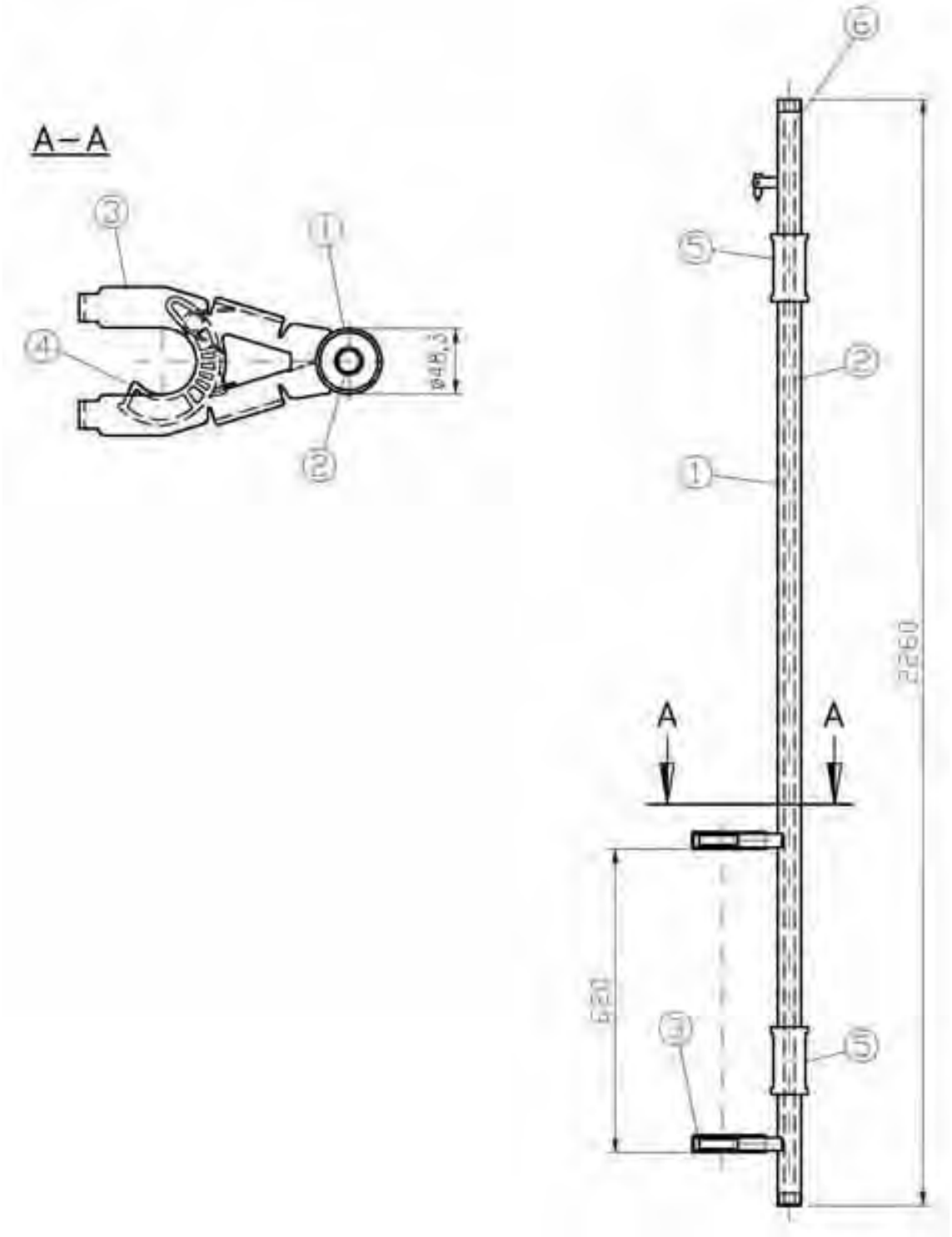
Aluminium assembly guardrail

1.57/2.07m ; 2.57/3.07m

according to Z-8.1.16.2

Annex B, page 156 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

ABS710-A107_ABM



(1)	External tube	ø48.3x2.8	EN AW-6082-T5	EN 755-2
(2)	Internal tube	ø20x2	EN AW-6063-T66	EN 755-2
(3)	Snapping shell	t=4	EN AW-5754-H24	EN 485
(4)	Finger		PP with steel core	
(5)	Handle		Plastic	
(6)	Marking			

Size [m]	Weight [kg]
-	4.1

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

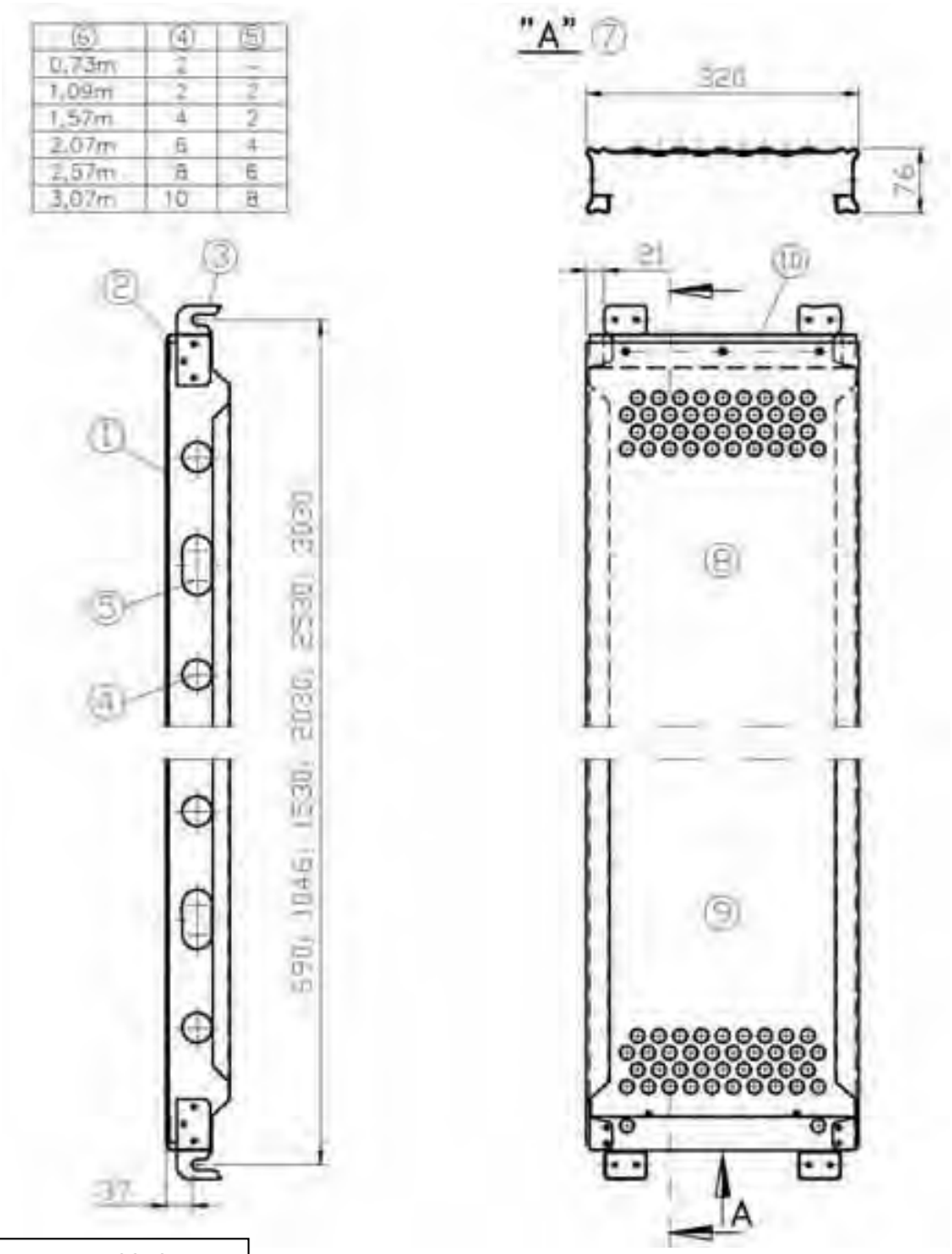
Assembly post T5

according to Z-8.1-16.2

Annex B, page 157 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

ABS710-A108_ABM

(6)	(4)	(5)
0,73m	2	-
1,09m	2	2
1,57m	4	2
2,07m	6	4
2,57m	8	6
3,07m	10	8



Design: spot-welded
• = welding spots

(1)	Sheet metal lining	t=1.5	EN 10025-2-S235JR
(2)	Cap	t=1.5	EN 10025-2-S235JR
(3)	Claw	t=4	EN 10111 DD13 ReH≥240N/mm^2 / Rm≥340N/mm^2

(4) Number of holes 1
(5) Number of holes 2
(6) Bay length
(7) Drawn without cap
(8) View from above
(9) View from below
(10) Marking

Use up to load class 4 (3.07m); 5 (2.57m); 6 (0.72; 1.09; 1.57; 2.07m)

Size [m]	Weight [kg]
0.73	6.0
1.09	8.4
1.57	11.6
2.07	15.0
2.57	18.2
3.07	21.5

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

U-steel plank T4

0.73-3.07x0.32m

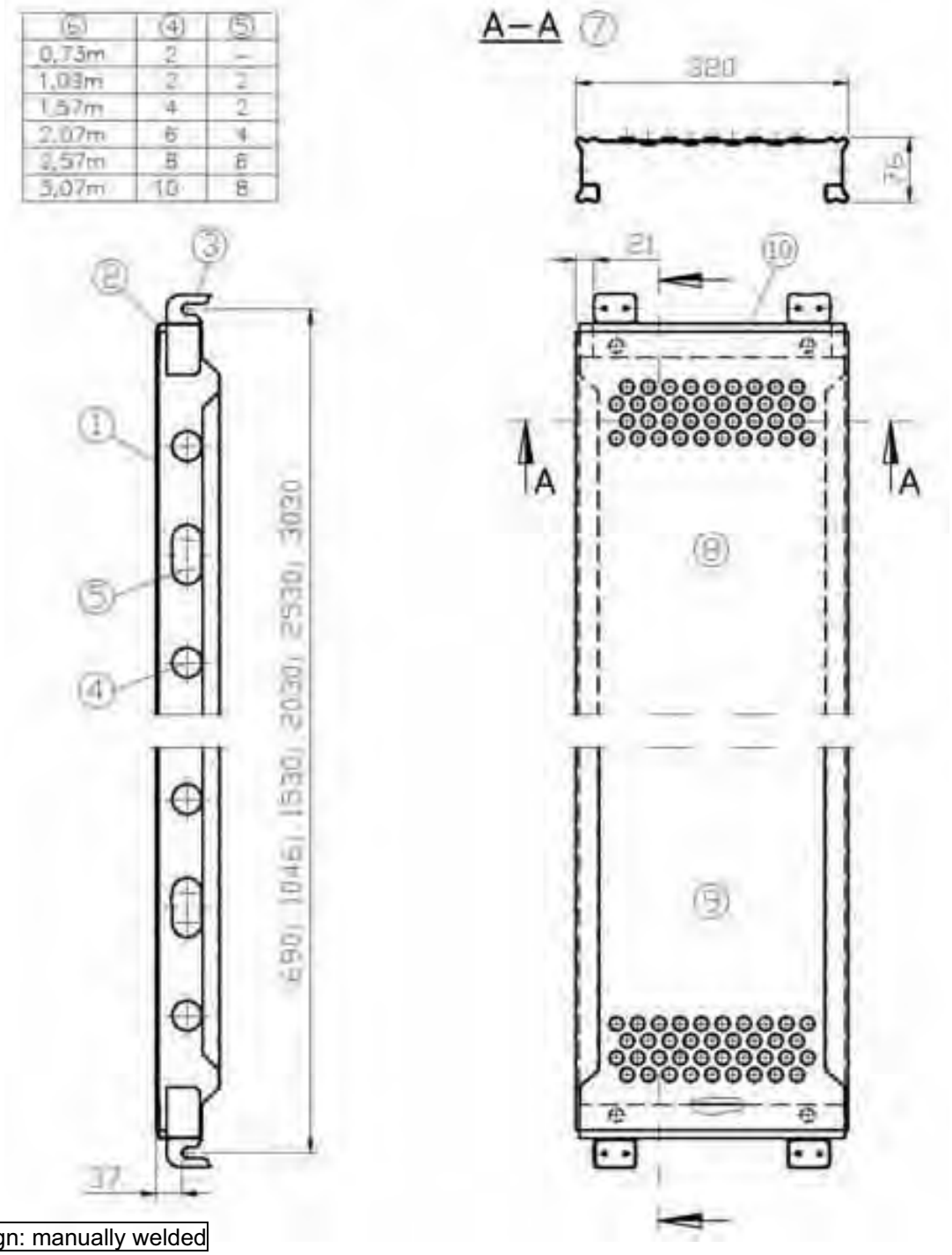
spot-welded with web holes

according to Z-8.1-16.2

Annex B, page 158 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

ABS710-A112_ABM

⑥	④	⑤
0,73m	2	–
1,09m	2	2
1,57m	4	2
2,07m	6	4
2,57m	8	6
3,07m	10	8



Design: manually welded

(1)	Sheet metal lining	t=1.5	EN 10025-2-S235JR
(2)	Cap	t=1.5	EN 10025-2-S235JR
(3)	Claw	t=4	EN 10111 DD13 ReH≥240N/mm^2 / Rm≥340N/mm^2

(4) Number of holes 1
(5) Number of holes 2
(6) Bay length
(7) Drawn without cap
(8) View from above
(9) View from below
(10) Marking

Use up to load class 4 (3.07m); 5 (2.57m); 6 (0.72; 1.09; 1.57; 2.07m)

Size [m]	Weight [kg]
0.73	6.0
1.09	8.4
1.57	11.6
2.07	15.0
2.57	18.2
3.07	21.5

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

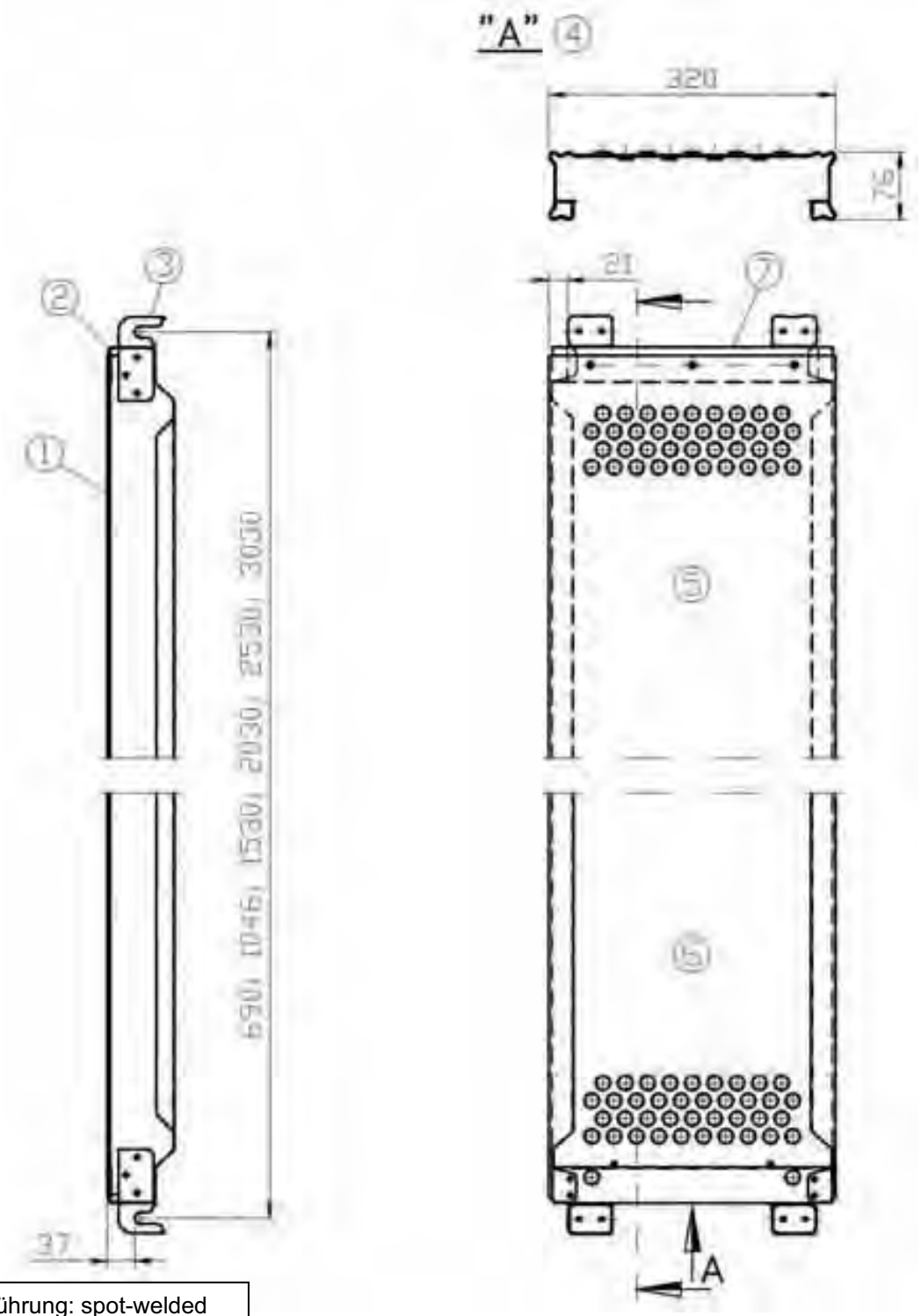
U-steel plank T4

0.73-3.07x0.32m, manually welded, with web holes

according to Z-8.1-16.2

Annex B, page 159 to the national technical approval Z-8.22-913 of 7. May 2012 Deutsches Institut für Bautechnik

ABS710-A113_ABM



Ausführung: spot-welded
• = weld spots

(1)	Sheet metal lining	t=1.5	EN 10025-2-S235JR
(2)	Cap	t=1.5	EN 10025-2-S235JR
(3)	Claw	t=4	EN 10111 DD13 ReH≥240N/mm^2 / Rm≥340N/mm^2
(4)	Drawn without cap		
(5)	View from above		
(6)	View from below		
(7)	Marking		

Use up to load class 4 (3.07m); 5 (2.57m); 6 (0.72; 1.09; 1.57; 2.07m)

Size [m]	Weight [kg]
0.73	6.1
1.09	8.6
1.57	11.9
2.07	15.4
2.57	18.7
3.07	22.2

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

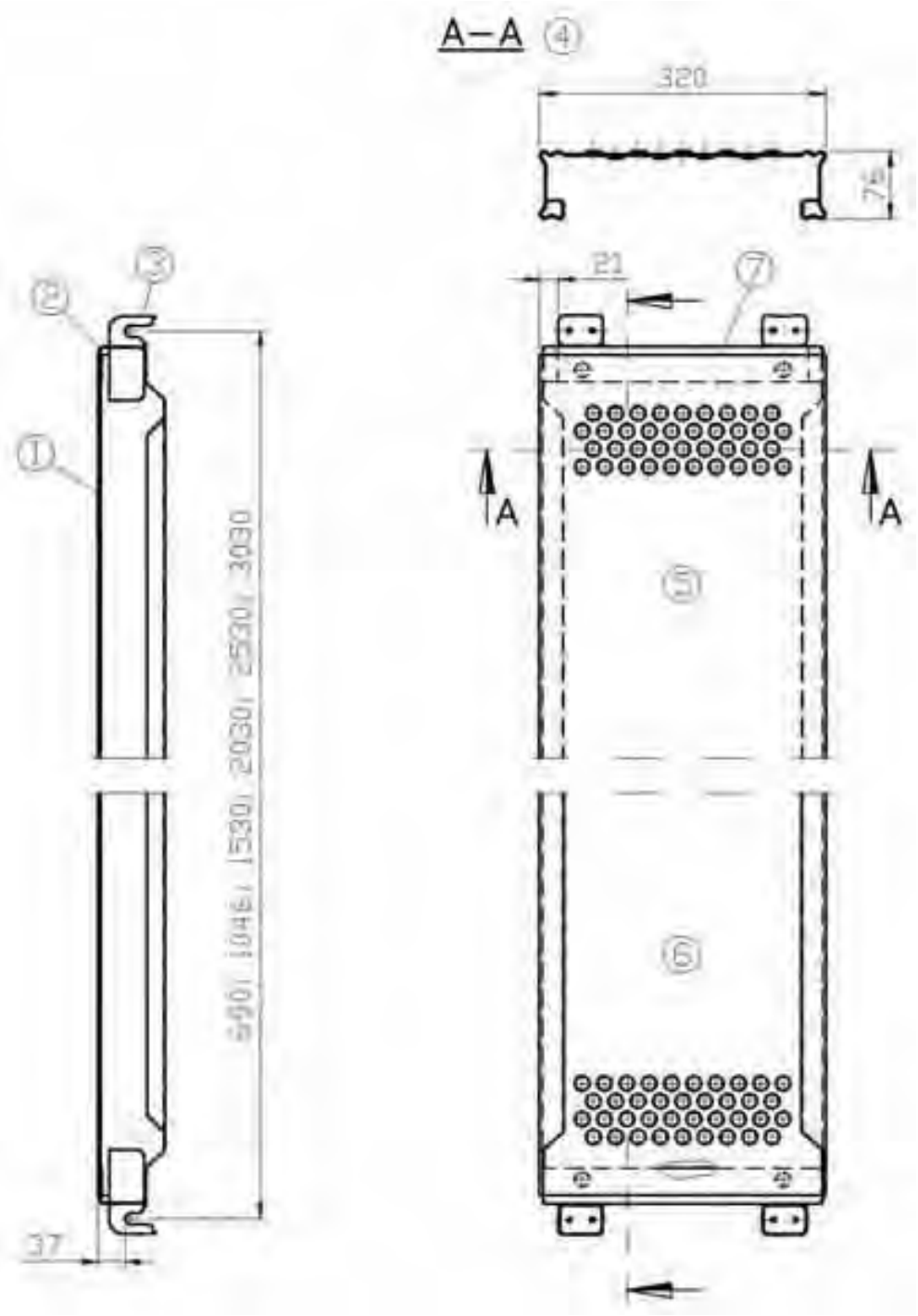
U-steel plank 0.73-3.07x0.32m

spot-welded

according to Z-8.1-16.2

Annex B, page 160 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

ABS710-A007_ABM



Design: manually welded

(1) Sheet metal lining t=1.5 EN 10025-2-S235JR
(2) Cap t=1.5 EN 10025-2-S235JR
(3) Claw t=4 EN 10111 DD13 ReH≥240N/mm^2 / Rm≥340N/mm^2
(4) Drawn without cap
(5) View from above
(6) View from below
(7) Marking

Use up to load class 4 (3.07m); 5 (2.57m); 6 (0.72; 1.09; 1.57; 2.07m)

Size [m]	Weight [kg]
0.73	6.1
1.09	8.6
1.57	11.9
2.07	15.4
2.57	18.7
3.07	22.2

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

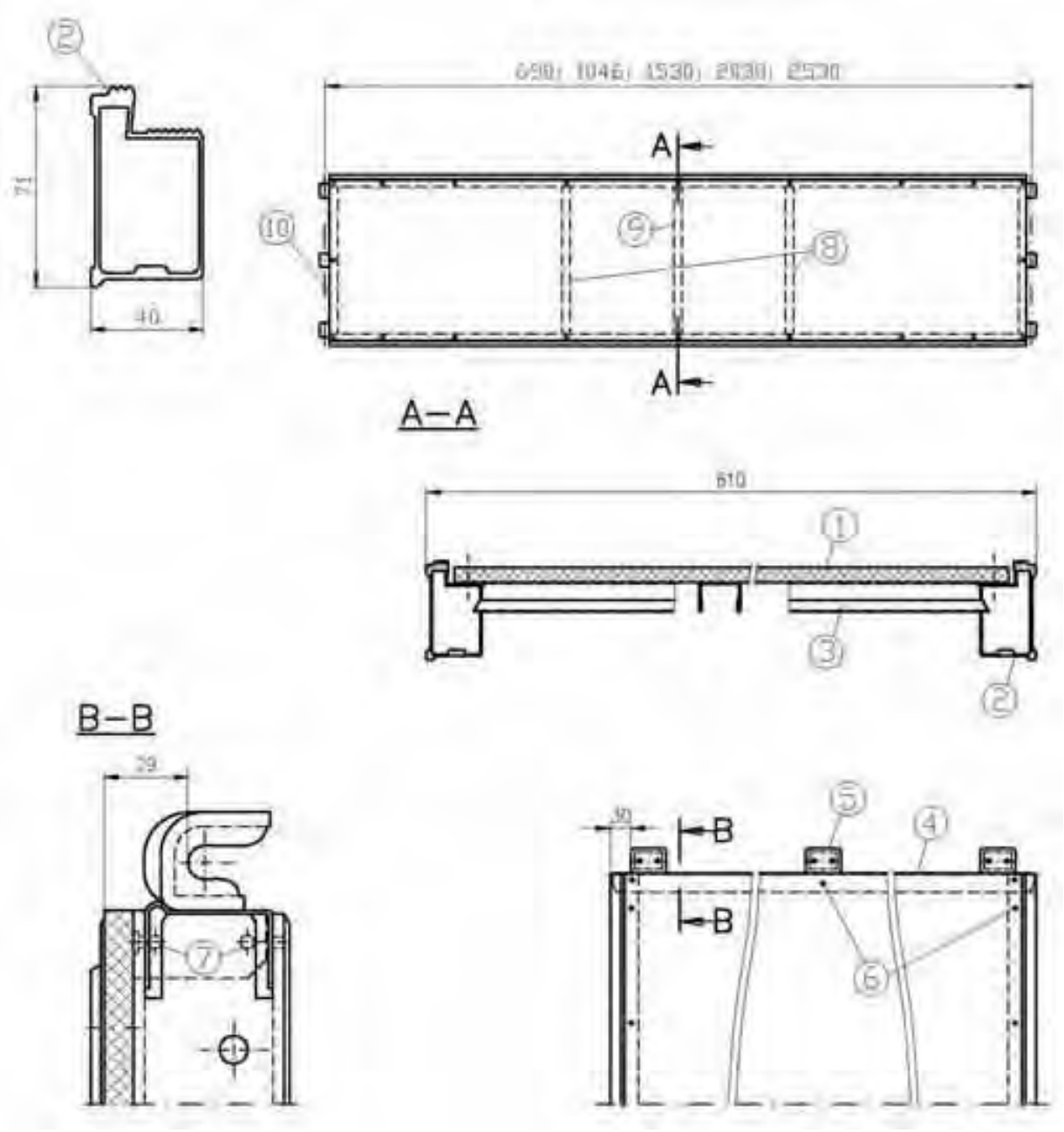
U-steel plank 0.73-3.07x0.32m

manually welded

according to Z-8.1-16.2

Annex B, page 161 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

ABS710-A116_ABM



(1)	Plywood	t=10.6	BFU 100G	acc. to approval Z-9.1-431
(2)	Brace		EN AW-6063-T66	EN 755-2
(3)	Rung	t=1.2	EN 10327-2-DX52D	
(4)	Cap	t=1.5	EN 10025-2-S235JR	
(5)	Claw	t=4	EN 10111 DD13	ReH≥240N/mm^2 / Rm≥340N/mm^2
(6)	Blind rivet	A 4.8x23	EN 10263-2	
(7)	Blind rivet	A 4.8x12	EN 10263-2	
(8)	Middle strut 2x only at 2.57m			
(9)	Middle strut 1x only at 1.57m and 2.07m			
(10)	Marking			

Size [m]	Weight [kg]
0.73	7.2
1.09	9.7
1.57	13.1
2.07	16.4
2.57	20.4

Use up to load class 3

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

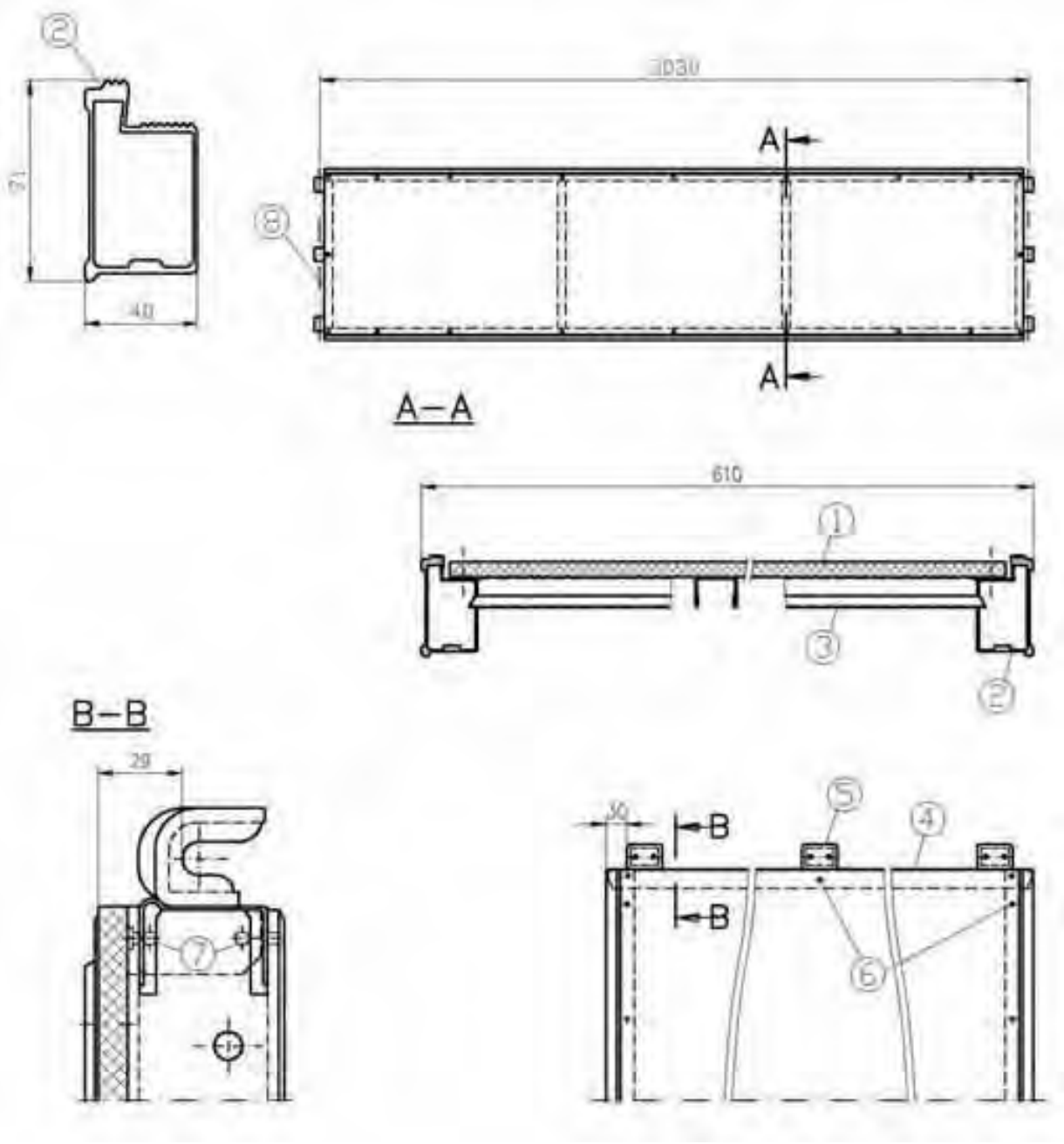
U-robust plank

0.73-2.57 x 0.61m

according to Z-8.1-16.2

Annex B, page 162 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

ABS710-A128_ABM



(1)	Plywood	t=10.6	BFU 100 G	acc. approval Z-9.1-431
(2)	Brace		EN AW-6063-T66	EN 755-2
(3)	Rung	t=1.2	EN 10327-2-DX52D	
(4)	Cap	t=1.5	EN 10025-2-S235JR	
(5)	Claw	t=4	EN 10111 DD13	ReH≥240N/mm^2 / Rm≥340N/mm^2
(6)	Blind rivet	A 4.8x23	EN 10263-2	
(7)	Blind rivet	A 4.8x12	EN 10263-2	
(8)	Marking			

Size [m]	Weight [kg]
3.07	25.0

Use up to load class 3

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

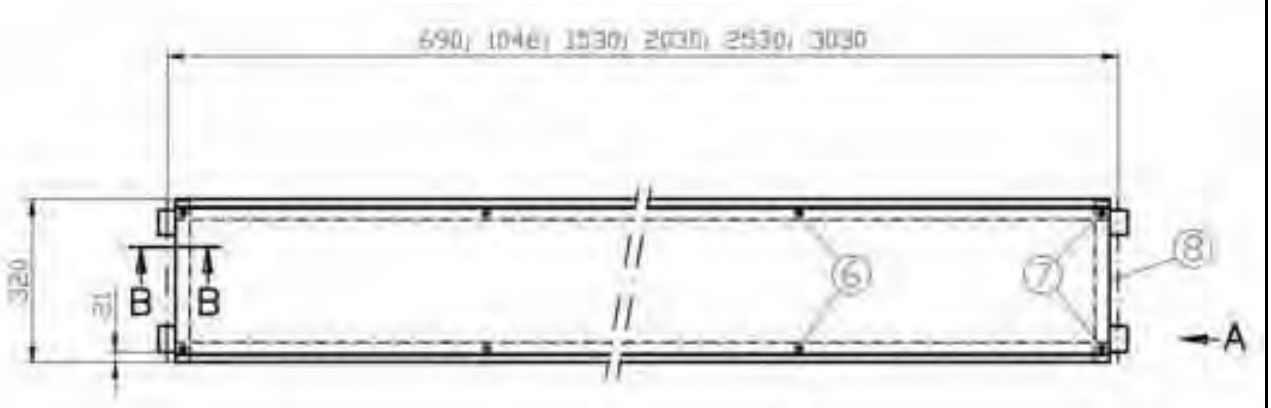
U-robust plank

3.07 x 0.61m

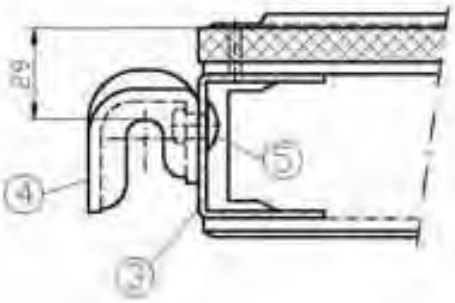
according to Z-8.1-16.2

Annex B, page 163 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

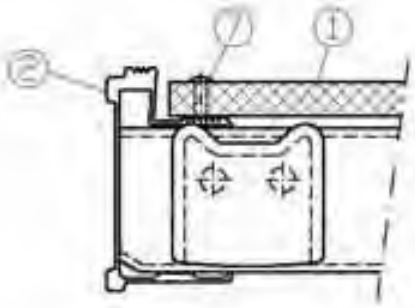
ABS710-A129_ABM



B–B



"A"



(1)	Plywood	t=10.6	BFU 100 G acc. to approval Z-9.1-431
(2)	Brace		EN AW-6063-T66 EN 755-2
(3)	Cap	t=2.5	EN AW-6063-T66 EN 755-2
(4)	Claw	t=4	EN 10111 DD13 ReH≥240N/mm^2 / Rm≥340N/mm^2
(5)	Truss head rivet	Ø8x18	EN 10263-2
(6)	Blind rivet	A 4.8x23	EN 10263-2
(7)	Blind rivet	A 4.8x12	EN 10263-2
(8)	Marking		

Size [m]	Weight [kg]
0.73	6.4
1.09	8.4
1.57	9.9
2.07	11.5
2.57	14.7
3.07	16.0

Use up to load class 3 (3.07m), 4 (2.57m), 5 (2.07m), 6 (0.73, 1.09, 1.57m)

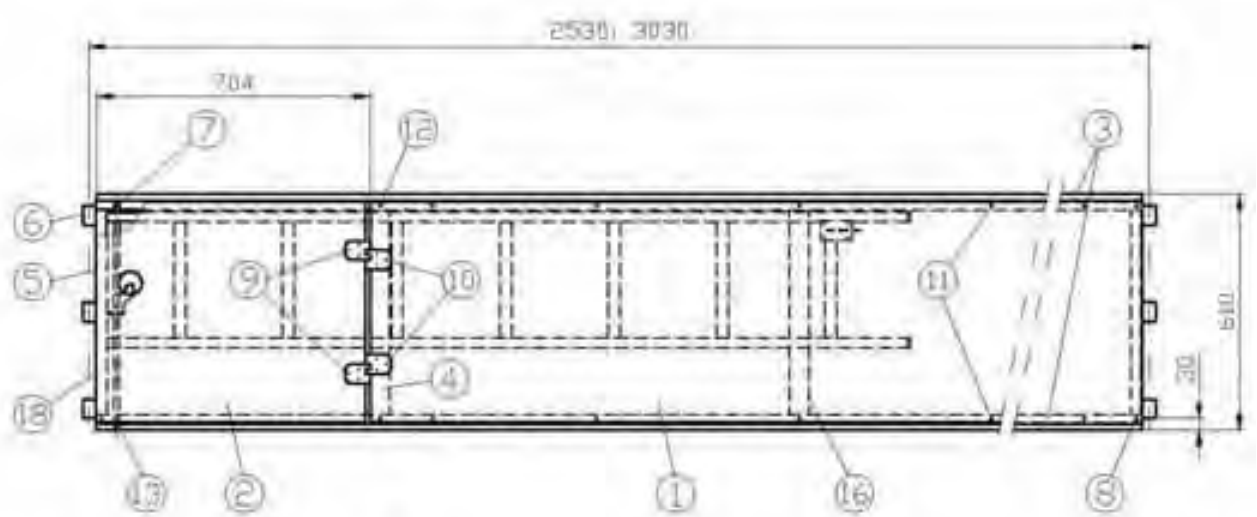
ALFIX GmbH
63828 Edelbach
09603 Großschirma

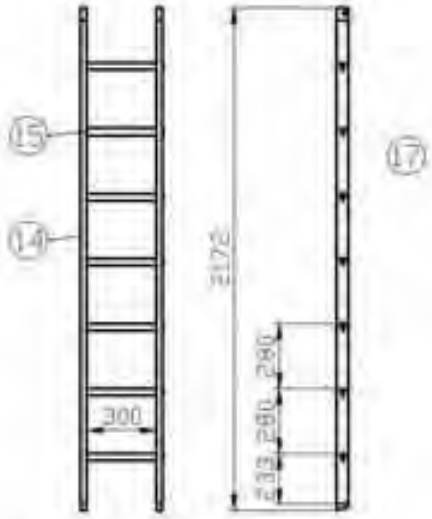
ALBLITZ MODUL

U-robust plank

0.73-3.07 x 0.32m

according to Z-8.1-16.2





(1)	Plywood	t=10.6	BFU 100 G	acc. to approval Z-9.1-431
(2)	Hatch	t=1.2	BFU 100 G	acc. to approval Z-9.1-431
		W2-3.5/5	EN AW-5754-H114	EN 1386
(3)	Brace		EN AW-6063-T66	EN 755-2
(4)	Reinforcement	L 50x12x3	EN AW-6063-T66	EN 755-2
(5)	Cap	t=1.5	EN 10025-2 S235JR	
(6)	Claw	t=4	EN 10111 DD13	ReH≥240N/mm^2 / Rm≥340N/mm^2
(7)	Reinforcement	U 45x20.5x1.5	EN 10025-2-S235JR	
(8)	Blind rivet	A 4.8x12	EN 10263-2	
(9)	Blind rivet	A 5x18.1	ISO 15977	
(10)	Blind rivet	A 4.8x23.2	ISO 15977	
(11)	Blind rivet	A 4.8x23	EN 10263-2	
(12)	Blind rivet	A 4.8x25	EN 10263-2	
(13)	Axis	Ø12	EN 10025-2-S235JR	
(14)	Ladder beam	50x25	EN AW-6063-T66	EN 755-2
(15)	Ladder rung	Ø12	EN AW-6060-T6	EN 755-2
(16)	Bracing	50x3	EN AW-6060-T66	EN 755-2
(17)	Ladder		acc. to EN 131	
(18)	Marking			

Size [m]	Weight [kg]
2.57	25.2
3.07	29.0

Use up to load class 3

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

U-robust hatch type access

2.57-3.07m x 0.61m with ladder

according to Z-8.1-16.2

Annex B, page 165 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

ABS710-A132_ABM

C.1 General

The scaffolding system can be utilized in the standard design as working scaffold of load classes ≤ 3 with a system width of b = 0.732 m and with bay widths of $\ell \leq 3.07$ m in accordance with DIN EN 12811-1:2004-03, and as safety and roof safety scaffolding in accordance with DIN 4420-1:2004-03.

The uppermost horizontal level (scaffold layer) must not exceed 24 m, including spindle (jack) extension length, above ground level. According to the requirements of DIN EN 12811-1:2004-03, Section 6.2.9.2, in the standard version, the scaffolding system is designed for working operations in one scaffolding layer in front of an "open" façade (percentage of openings = 60 %) and in front of closed façades. When determining wind load, a service life factor of $\chi = 0.7$ presuming a maximum service life of 2 years was taken into account. For the standard version, the sheeting of scaffold using nets or tarpaulins has not been proven.

Without any further proofs, the standard version must only be used if the loads acting within the bays do not exceed the respective live loads according to DIN EN 12811-1:2004-03, Table 3.
For the standard version of "ALBLITZ MODUL" scaffolding system, the following designation according to DIN EN 12810-1:2004-03 shall be used:

Scaffold EN 12810 – 3D – SW06/307 – H2 – A – LA

C.2 Safety scaffold

In the standard version as a safety scaffold, the scaffolding system is verified and proofed for compliance with a fall heights of up to 2 m according to DIN 4420-1:2004-03. Hatch-type accesses must not be installed in brackets.

C.3 Components

The scheduled components/parts are provided in Table C.1. Additionally, steel tubes of Ø 48,3 · 3,2 mm and couplings can be used for the horizontal bracing of bridging ledgers and for the connection of scaffold retainers and triangular ties to the standard couplers of posts according to DIN EN 12811-1:2004-03.

C.4 Bracing

For horizontal bracing of the scaffold, the following components must be continuously connected at vertical spacings of 2 metres:

Tube ledgers 0.73 m in the “small hole” of the connecting or perforated disc, and each with:
- one aluminium frame platform RE; or
- two steel planks RE; or
- two steel planks AF RE

or

U-ledgers 0.73 m in the “small hole” of the connecting or perforated disc, and each with:
- one aluminium frame platform with plywood or
- one aluminium deck with plywood or
- two steel decks or
- two steel planks AF or
- two U-steel planks T4 or
- two U-steel decks or
- two U robust planks 0.32 m or
- one U robust plank 0.61 m

At a ladder access, hatch-type accesses according to section C.7 shall be used instead of planks and decks. Planks, decks, accesses must be secured against unintended lift-off by means of deck retainers.

For bracing the outer vertical level, tube ledgers as guardrail braces (1 m above deck surface) are to be continuously used in every scaffold bay.
Vertical starter pieces are to be built-in immediately above scaffold spindles (jacks). They must be interconnected using longitudinal ledgers within the inner and outer level parallel to the façade, and using transoms right-angled to the façade.

C.5 Anchoring

The anchoring must be carried out using scaffold retainers as per to Annex B, page 81.
The scaffold retainers are to be fixed as an anchoring pair at an angle of 90° (triangular tie) or as "short" scaffold retainers only at the inner vertical frame upright by means of standard couplers. The scaffold connectors, which are anchored using triangular ties, must be connected to the adjacent row of standards through tube ledgers (longitudinal ledgers) within the inner level, depending on the type of erection.
Triangular ties and scaffold retainers must be fixed in close proximity to the connectors (node points) formed by upright tubes and transoms.
The fixtures to be arranged in the structure façades for absorbing the anchor forces must be designed at least for the characteristic values of impacts ($\gamma_F = 1.0$) [cf. Annex C].
Each row of uprights must be anchored at vertical spacings of 8 metres; in doing so, the anchoring of adjacent vertical frame rows is to be arranged vertically offset by half a spacing. The upright rows at the edge of a scaffold are to be anchored at vertical spacings of 4 metres. At the top and the second scaffold layer, each of the upright rows must be anchored.

C.6 Bridging

Bridging girders may be used for bridging gateways or similar if scaffold layers beneath bridging are omitted.
The bridging girders must be anchored at both the supporting area and the centre. Additionally, the girder must be braced through a horizontal latticework of tubes and couplers (cf. Annex C, pages 7 and 8).

C.7 Ladder passage

For an inner ladder passage, if tube ledgers are used, aluminium frame platforms with access hatch RE are to be applied, or, if U-ledgers are used, aluminium frame platforms with hatch-type access, aluminium hatch-type access decks with integrated ladder or U robust accesses with ladder.

C.8 Broadening bracket

At the inner side of scaffold, at all scaffold layers brackets of 0.39 m can be used.

Table C.1: Components of standard design

Designation	Annex B, page
Vertical starter piece	10
Vertical upright with spigot fitting 200	11
Tube ledger	13
U transom 0.73 m	15
Aluminium frame platform RE 1.57 m; 2.07 m	17
Aluminium frame platform RE 2.57 m; 3.07 m	18
Aluminium frame platform with access hatch RE 2.57 m	20
Aluminium frame platform with access hatch RE 3.07 m	21
Steel deck AF RE 0.32 m	23
Steel deck RE	26
Modular toeboard	28
Bracket 0.39 m RE	29
Wedge head coupler, turnable	29

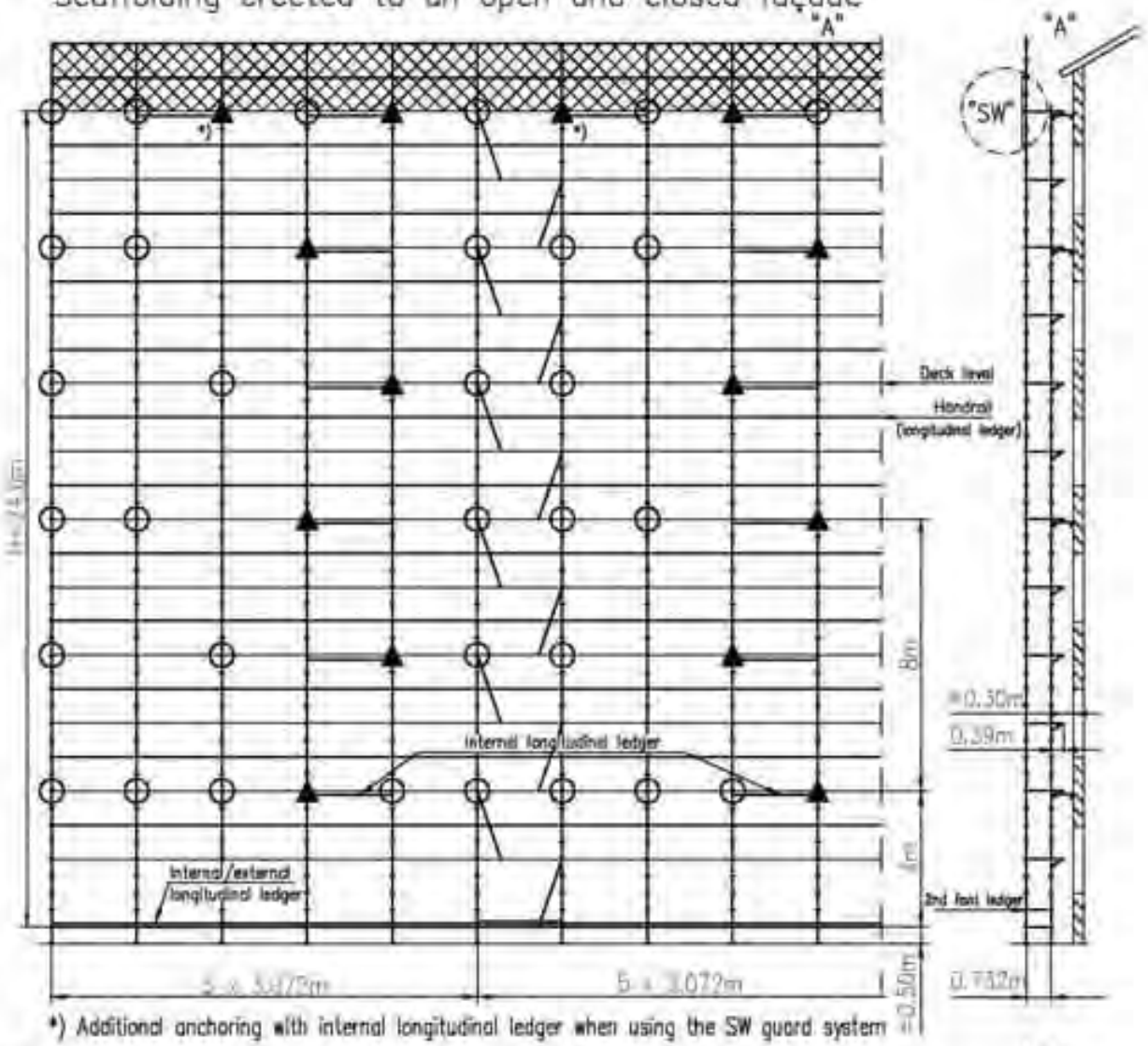
Table C.1: (continued)

Designation	Annex B, page
Modular bracket 0.39m	30
Modular safety net	31
Wedge head coupler, fixed	32
Modular deck retainer	33
Modular gap cover	34
Modular lattice girder 6.14 m	35
Modular lattice girder 4.14 m / 5.14 m	36
Modular lattice girder with spigot fitting 6.14 m	37
Modular lattice girder with spigot fitting 4.14 m / 5.14 m	38
Modular spigot fitting U	39
U-transom GT 0.73 m / 1.09m V	40
Tube transom GT 0.73 m / 1.09 m V	41
Modular spigot fitting	42
Wedge head coupler, fixed	52
Modular safety door	53
Aluminium frame platform with plywood 1.57 m; 2.07 m	62
Aluminium frame platform with plywood 2.57 m; 3.07 m	63
Aluminium frame platform with access hatch 2.57 m	65
Aluminium frame platform with access hatch 3.07. m	66
Modular gap cover	72
Modular aluminium toeboard	73
Modular double-end guardrail	80
Scaffold retainer	81
Base jack	83
Steel plank AF 0.32 m	84
Steel deck	85
Aluminium deck with plywood 2.57 m; 3.07 m	89
Aluminium deck with plywood 1.57 m; 2.07 m	90
Aluminium hatch-type access deck 3.07 m with ladder	92
Aluminium hatch-type access deck 2.57 m with ladder	93
Aluminium deck with plywood 3.07 m	96
Aluminium deck with plywood 1.57 m, 2.07 m, 2.57 m	97
Aluminium hatch-type access deck 3.07 m with ladder	99
Aluminium hatch-type access deck 2.57 m with ladder	100
Toeboard, end toeboard	102
Aluminium toeboard, aluminium end toeboard	103
Gap cover	105
Starter piece	124
AR upright with spigot fitting	125
O-ledger 0.73-3.07m	126
U-ledger 0.73 m	127
Diagonal brace	128

Table C.1: (continued)

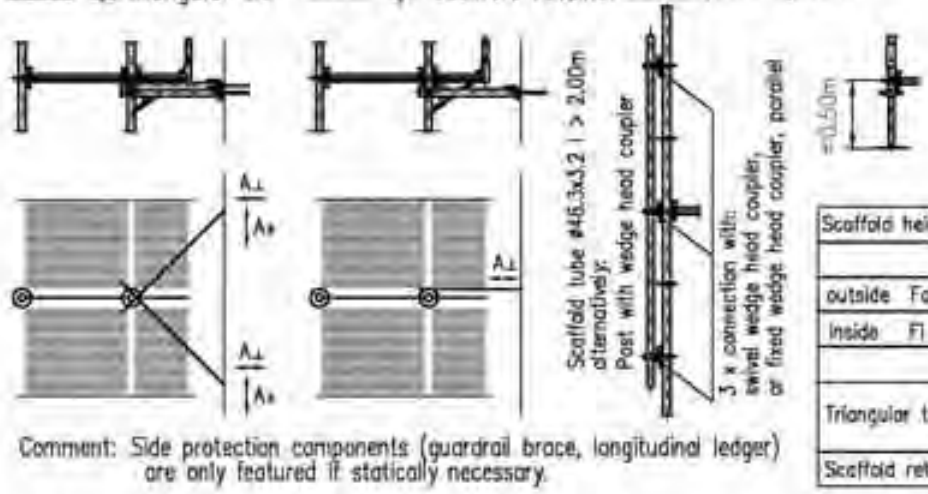
Designation	Annex B, page
U-plank/deck retainer	129
AR U-toeboard, wood, design I; AR U-toeboard, wood, design II	130
U-toeboard, steel	131
U-bracket	132
O-lattice girder	133
Spigot fitting for lattice girder	134
Safety side meshguard	135
Horizontal diagonal brace	136
Post with wedge heads	137
Base jack 60	151
Locking clip, red	152
U-lattice girder - ledger 0.73 m	154
Aluminium assembly guardrail 1.57/2.07m, 2.57/3.07m	156
Assembly post T5	157
U-steel deck T4 0.73-3.07m x 0.32 m, spot-welded, with holes for bridging decks	158
U-steel deck T4 0.73-3.07m x 0.32 m, hand-welded, with holes for bridging decks	159
U-steel deck 0.73-3.07m x 0.32 m, spot-welded	160
U-steel deck 0.73-3.07m x 0.32 m, hand-welded	161
U-robust plank 0.73-2.57m x 0.61 m	162
U-robust plank 3.07m x 0.61 m	163
U-robust plank 0.73-2.57m x 0.32 m	164
U-robust access 2.57-3.07m x 0.61 m with ladder	165

Standard design with internal bracket
Scaffolding erected to an open and closed façade



*) Additional anchoring with internal longitudinal ledger when using the SW guard system

Detail ▲ triangular tie Detail ⊕ scaffold retainer Detail guard system



Scaffold height [m]		8	16	24
		Reaction forces [kN]		
outside Fa		6.5	9.2	12.0
inside Fi		10.6	13.9	17.2
		Anchor forces [kN]		
Triangular tie	A⊥	3.0	3.0	
	A∥	3.0	3.0	
Scaffold retainer	A⊥	3.6	3.6	

Comment: Side protection components (guardrail brace, longitudinal ledger) are only featured if statically necessary.

ALFIX GmbH
63828 Edelbach
09603 Großschirma

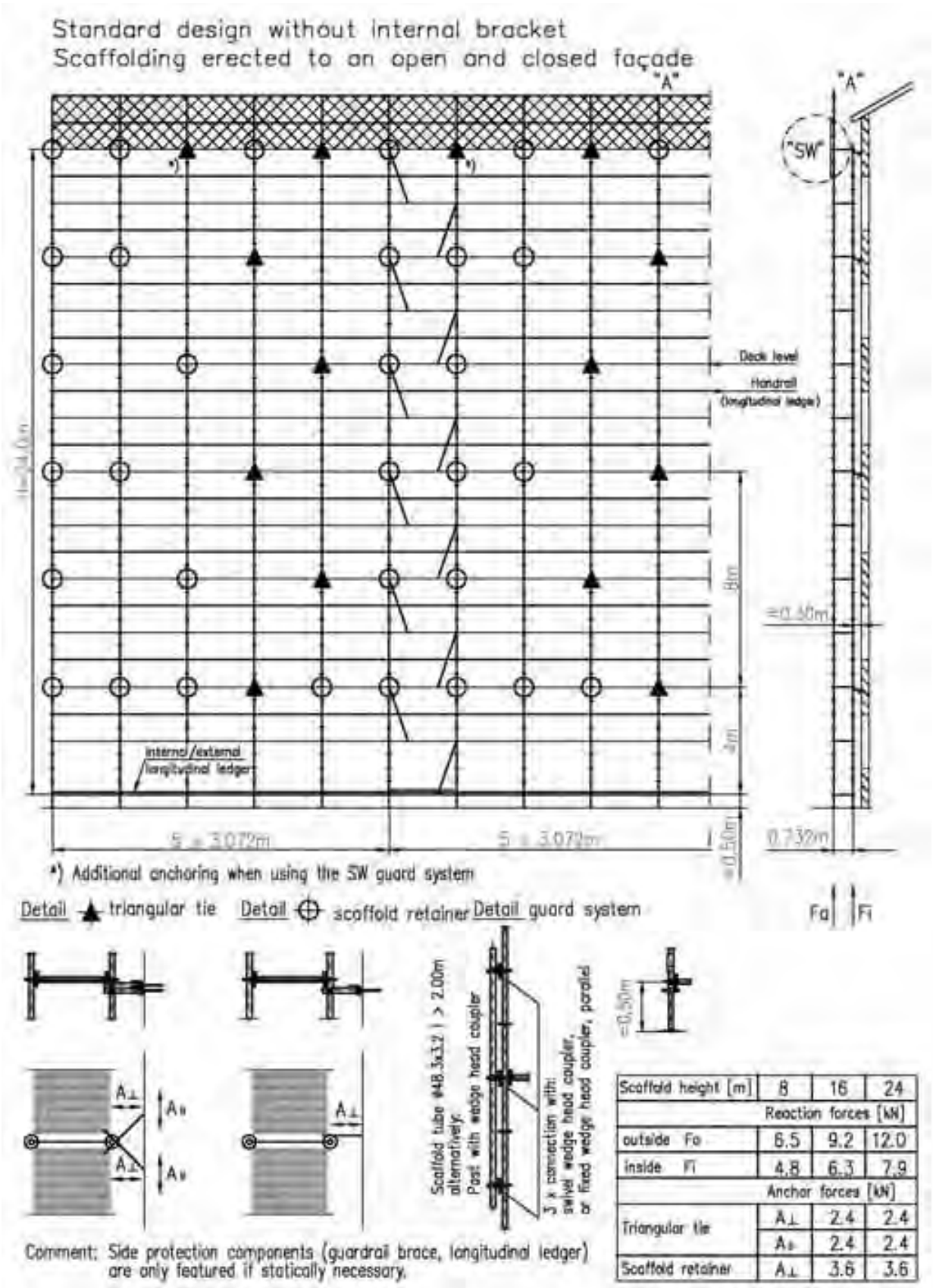
ALBLITZ MODUL

Scaffold EN12810

3D-SW06/307-H2-A-LA

Annex C, page 5 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

M710-C104_ABM



Scaffold height [m]	8	16	24
Reaction forces [kN]			
outside Fo	6.5	9.2	12.0
inside Fi	4.8	6.3	7.9
Anchor forces [kN]			
Triangular tie	A⊥	2.4	2.4
	A∥	2.4	2.4
Scaffold retainer	A⊥	3.6	3.6

ALFIX GmbH
63828 Edelbach
09603 Großschirma

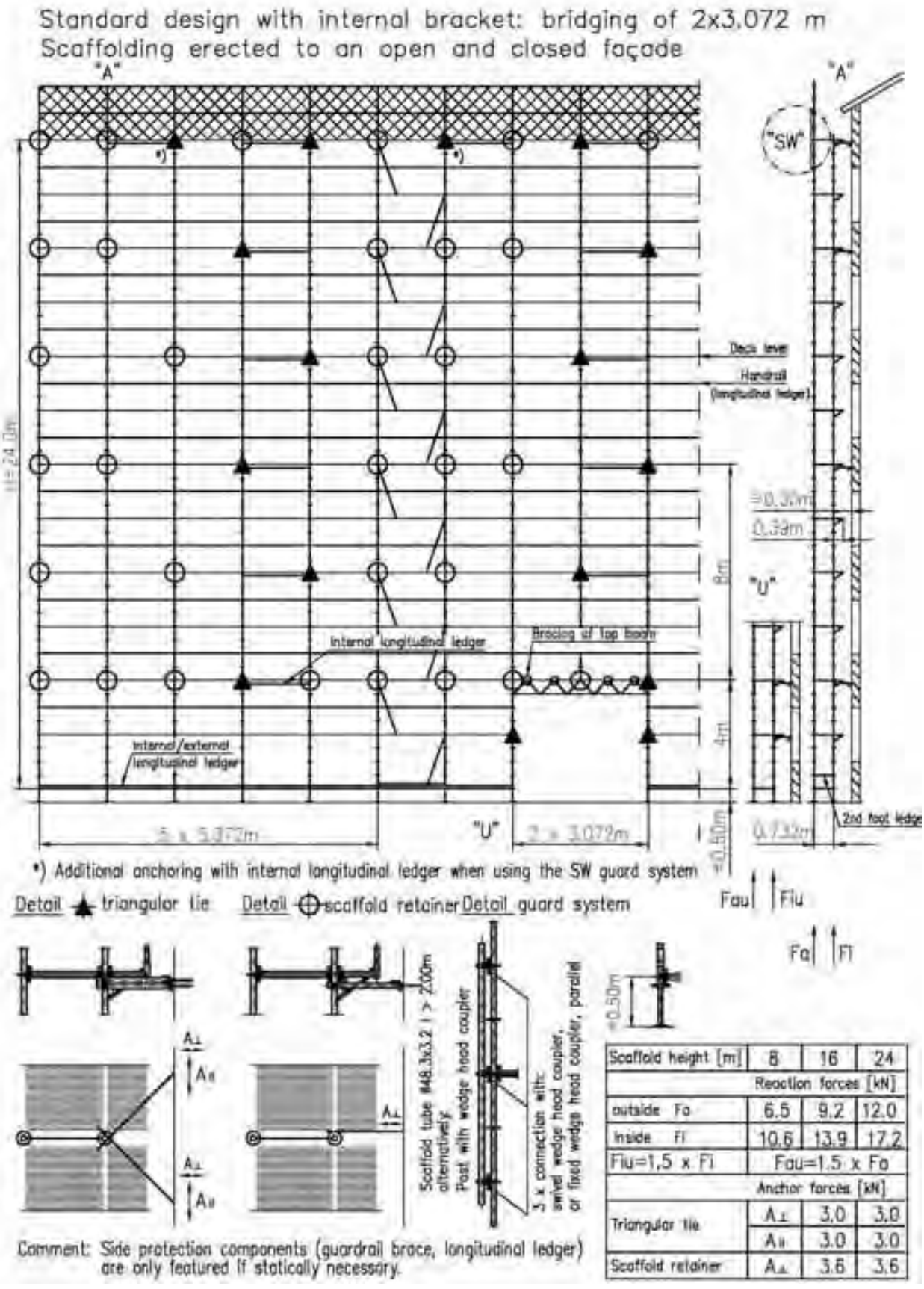
ALBLITZ MODUL

Scaffold EN12810

3D-SW06/307-H2-A-LA

Annex C, page 6 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

M710-C105_ABM



Scaffold height [m]	8	16	24
	Reaction forces [kN]		
outside Fa	6.5	9.2	12.0
inside Fi	10.6	13.9	17.2
Fiu=1.5 x Fi	Fau=1.5 x Fa		
	Anchor forces [kN]		
Triangular tie	$A_{\perp}$	3.0	3.0
	$A_{\parallel}$	3.0	3.0
Scaffold retainer	$A_{\perp}$	3.6	3.6

LFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

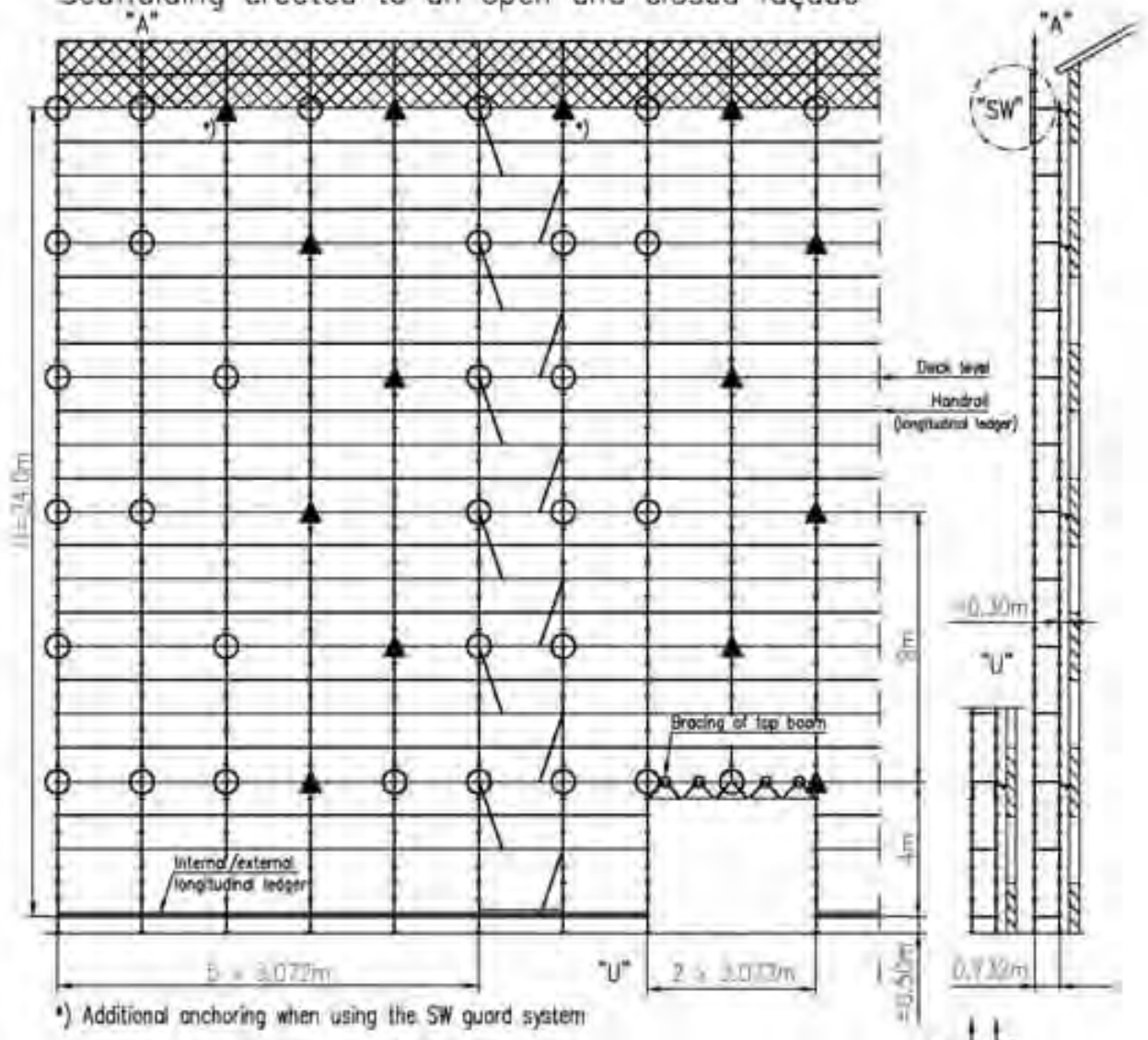
Scaffold EN12810

3D-SW06/307-H2-A-LA

Annex C, page 7 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

M710-C106_ABM

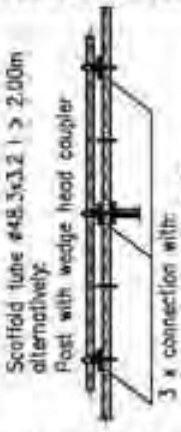
Standard design without internal bracket: bridging of 2x3.072 m
Scaffolding erected to an open and closed façade

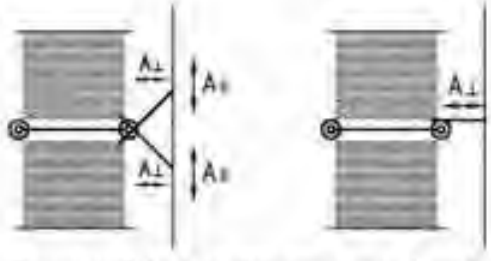


Detail ▲ triangular tie

Detail ⊕ scaffold retainer

Detail guard system





Comment: Side protection components (guardrail brace, longitudinal ledger) are only featured if statically necessary.

Scaffold height [m]	8	16	24
	Reaction forces [kN]		
outside Fa	6.5	9.2	12.0
inside Fl	4.8	6.3	7.9
Flu=1.5 x Fl	Fau=1.5 x Fa		
	Anchor forces [kN]		
Triangular tie	A⊥	2.4	2.4
	A∥	2.4	2.4
Scaffold retainer	A⊥	3.6	3.6

ALFIX GmbH
63828 Edelbach
09603 Großschirma

ALBLITZ MODUL

Scaffold EN12810

3D-SW06/307-H2-A-LA

Annex C, page 8 to
the national technical
approval Z-8.22-913
of 7. May 2012
Deutsches Institut für Bautechnik

M710-C107_ABM

www.alfix-systems.com

ALFIX GmbH
Langhennersdorfer Straße 15
D-09603 Großschirma

Phone: +49 (0) 37328 / 800-100
Fax: +49 (0) 37328 / 800-199
email: info@alfix-systems.com

SALE OF
- Work & Safety scaffoldings
- Mobile scaffold towers
- Weather protection roofs
- Chimney scaffolds
- Accessories

HIRE OF
- Work & Safety scaffoldings
- Mobile scaffold towers
- Chimney scaffolds