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Authorised and notified according to Article 29 of the Regulation (EU) No 305/2011 of the European Parliament and of the Council of 9 March 2011

European Technical Assessment ETA-24/0056 of 2024/10/31

I General Part

Technical Assessment Body issuing the ETA and designated according to Article 29 of the Regulation (EU) No 305/2011: ETA-Danmark A/S

Trade name of the construction product:	Varifix® Mounting rail 26/18/1,25; 26/26/1,25; 28/28/1,75; 36/36/2,5; 41/22/1,8; 41/41/1,8; 41/22/1,8 maritime, 41/41/1,8 maritime, 41/41/3,0 maritime, 41/44/2,5 Longitudinally welded; 41/82/2,5 Longitudinally welded; 41/124/3,0 Longitudinally welded
Product family to which the above construction product belongs:	Installation systems for supporting technical building equipment
Manufacturer:	Adolf Würth GmbH & Co. KG Reinhold-Würth-Strasse 12-17 D-74650 Künzelsau Deutschland
Manufacturing plant:	Würth manufacturing plants
This European Technical Assessment contains:	23 pages including 2 annexes which form an integral part of the document
This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of:	EOTA EAD 280016-00-0602, “Products for installation systems for supporting technical building equipment”
This version replaces:	The ETA with the same number issued on 2024/03/13

II SPECIFIC PART OF THE EUROPEAN TECHNICAL ASSESSMENT

1 Technical description of the product

Objects of this European Technical Assessment are the channels Varifix® Mounting rail 26/18/1,25; 26/26/1,25; 28/28/1,75; 36/36/2,5; 41/22/1,8; 41/41/1,8; 41/22/1,8 maritime, 41/41/1,8 maritime, 41/41/3,0 maritime, 41/44/2,5 Longitudinally welded; 41/82/2,5 Longitudinally welded; 41/124/3,0 Longitudinally welded.
Annex A describes the dimensions and materials of the channels.

2 Specification of the intended use in accordance with the applicable European Assessment Document (hereinafter EAD)

The performance given in Section 3 can only be assumed if the Varifix® mounting rails are used in compliance with the specifications and under boundary conditions set out in Annex B.
The test and assessment methods on which this European Technical Assessment is based lead to an assumption of a working life of the Varifix® Mounting rails of at least 50 years. The indications given on the working life cannot be interpreted as a guarantee given by the producer but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.
In accordance with the European Assessment Document EAD 280016-00-0602, the channels are intended to be used under dry indoor conditions for supporting:
- pipes for the transport of water not intended for human consumption,
- pipes for the transport of gas/fuel intended for the supply of building heating/cooling systems,
- technical building equipment in general,
- components of fixed fire-fighting systems.

The product is intended to be used where failure or excessive deformation of the installation systems would lead to an unacceptable risk of accidents or damage in service or in operation (BWR 4).

3 Performance of the product and references to the methods used for its assessment

Characteristic	Assessment of characteristic
3.2 Safety in case of fire (BWR2)	
Reaction to fire	No performance assessed
Pull-through resistance of channel back holes under fire exposure	No performance assessed
Bending characteristics under fire exposure	No performance assessed
3.4 Safety and accessibility in use (BWR4)	
Shape	See Annex A
Dimension	See Annex A
Material and cross-section characteristics	See Annex B
Characteristic pull-through resistance of channel back holes	No performance assessed

See additional information in section 3.9.

3.9 General aspects related to the performance of the product.

The European Technical Assessment is issued for the product on the basis of agreed data/information, deposited with ETA-Danmark, which identifies the product that has been assessed and judged. Changes to the product or production process, which could result in this deposited data/information being incorrect, should be notified to ETA-Danmark before the changes are introduced. ETA-Danmark will decide whether or not such changes affect the ETA and consequently the validity of the CE marking on the basis of the ETA and if so whether further assessment or alterations to the ETA, shall be necessary.

The assessment of fitness of the channel for the intended use in relation to the requirements for safety in case of fire and safety and accessibility in use in the sense of the Basic Requirements 2 and 4 has been made in accordance with EAD 280016-00-0602, “Products for installation systems for supporting technical building equipment”.

4 Assessment and verification of constancy of performance (hereinafter AVCP) system applied, with reference to its legal base.

4.1 AVCP system

In accordance with the European Assessment Document EAD 280016-00-0602 the applicable European legal act is:

For products for installation systems intended to be used for supporting pipes for the transport of water not intended for human consumption the applicable European legal act is Commission Decision 1999/472/EC, as amended by Commission Decision 2001/596/EC.

The system to be applied is **4.** This includes uses that are subject to regulations on reaction to fire performance because the performance of the product is **class A1** without the need to be tested for reaction to fire.

For products for installation systems intended to be used for supporting pipes for the transport of gas/fuel intended for the supply of building heating/cooling systems the applicable European legal act is Commission Decision 1999/472/EC, as amended by Commission Decision 2001/596/EC.

The system to be applied is **3.**

For products for installation systems intended to be used for supporting technical building equipment in general the applicable European legal act is Commission Decision 97/161/EC. The system to be applied is **2+.**

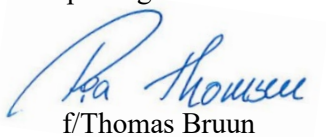
For products for installation systems intended to be used for supporting components of fixed fire-fighting systems the applicable European legal act is Commission Decision 96/577/EC, as amended by Commission Decision 2002/592/EC.

The system to be applied is **1**.

5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD.

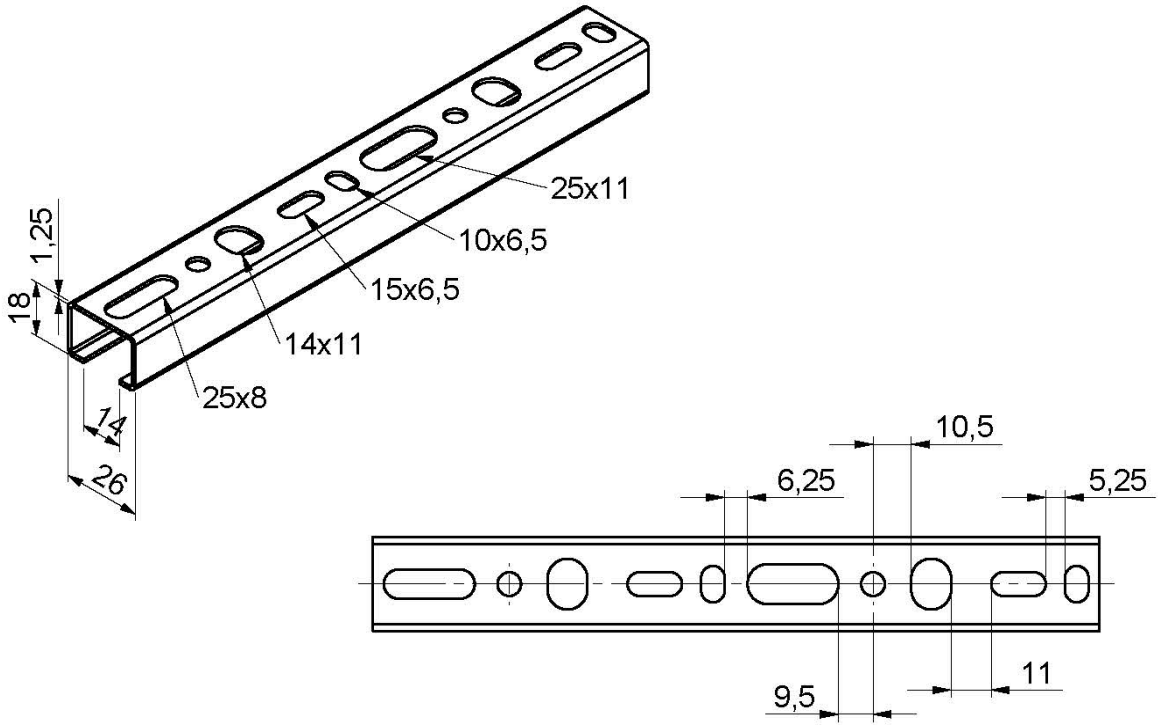
Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited at ETA-Danmark prior to CE marking.

Issued in Copenhagen on 2024-10-31 by



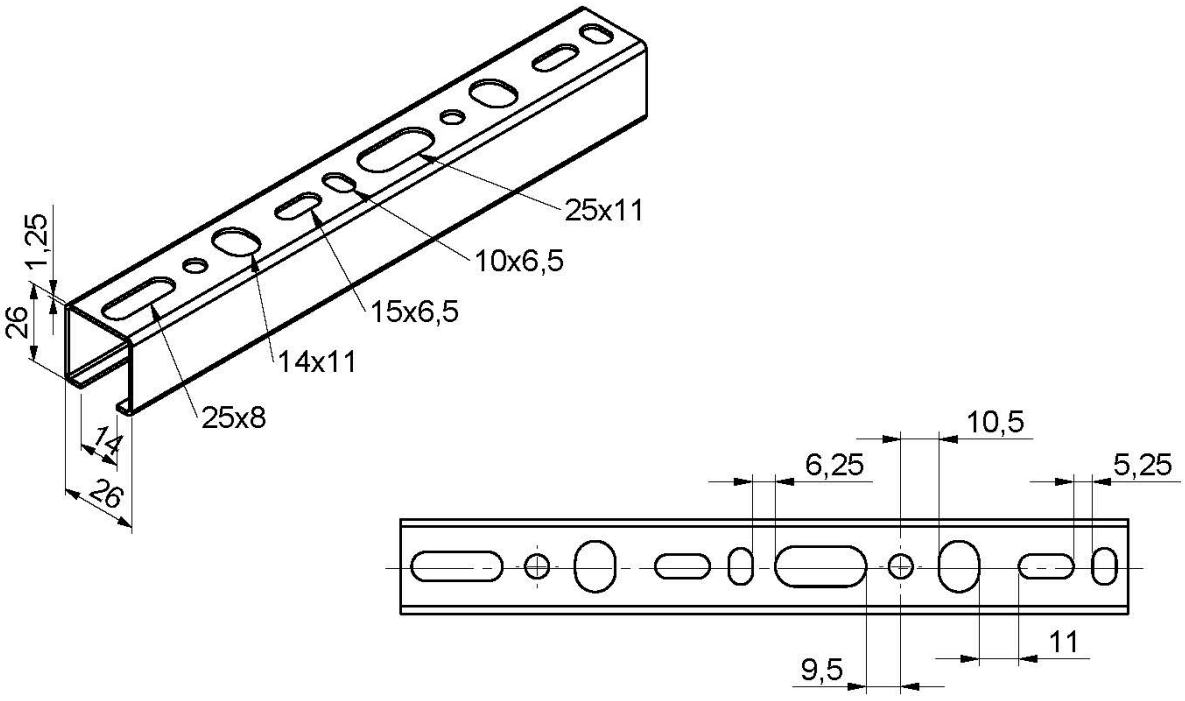
f/Thomas Bruun
Managing Director, ETA-Danmark

Table A1: Dimension and materials of the assembly rail 26/18/1,25



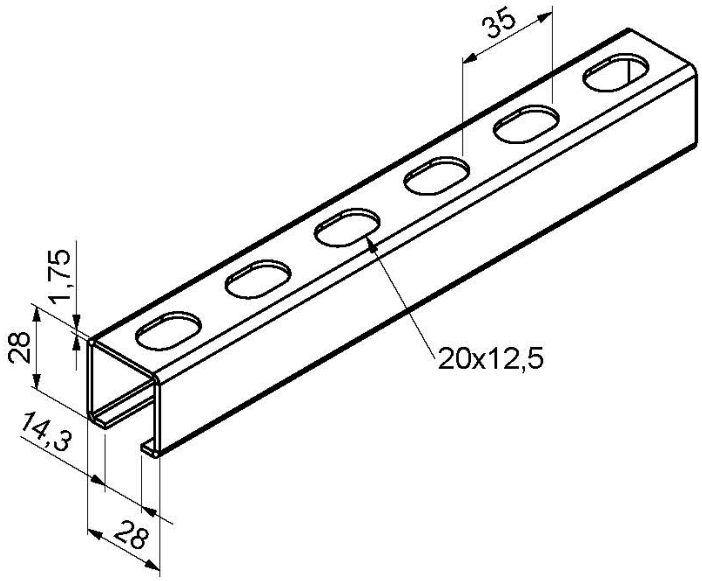
article number	title	length (m)	material
0862001001	Varifix® C-assembly rail 26/18/1,25 2M	2	S280GD + Z140-M-A-C according to EN 10346
0862001221	Varifix® C-assembly rail 26/18/1,25 3M	3	
Varifix assembly rails 26/18/1,25			annex A1
product description dimensions and materials			

Table A2: Dimension and materials of the assembly rail 26/26/1,25



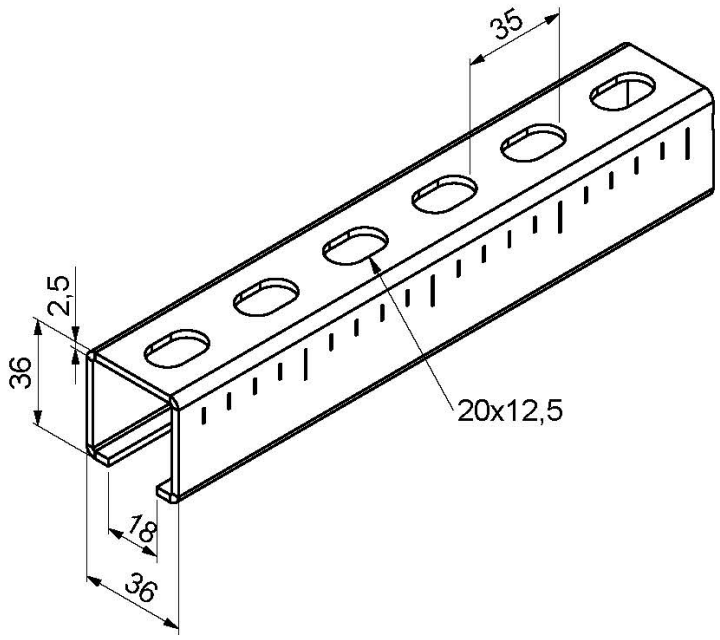
article number	title	length (m)	material
0862001002	Varifix® C-assembly rail 26/26/1,25 2M	2	S280GD + Z140-M-A-C according to EN 10346
0862001222	Varifix® C-assembly rail 26/26/1,25 3M	3	
Varifix assembly rails 26/26/1,25			annex A2
product description dimensions and materials			

Table A3: Dimension and materials of the assembly rail 28/28/1,75



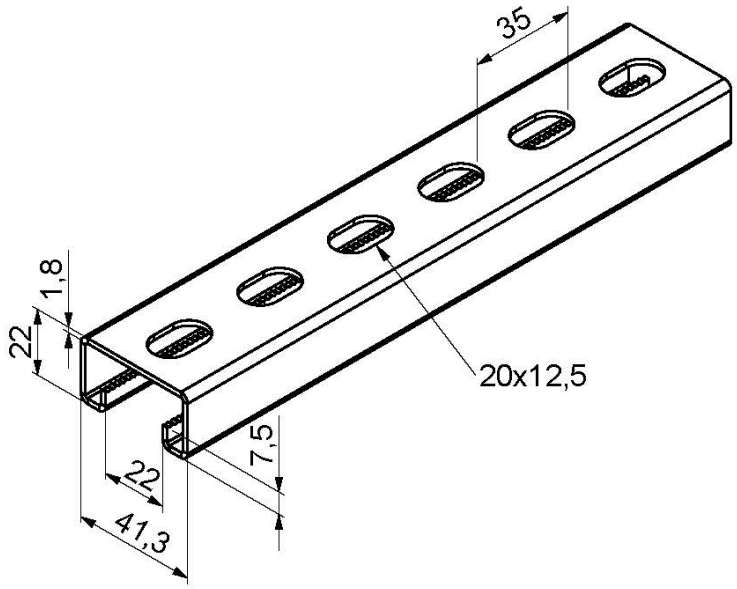
article number	title	length (m)	material
0862001003	Varifix® C-assembly rail 28/28/1,75 2M	2	S280GD + Z140-M-A-C according to EN 10346
0862001223	Varifix® C-assembly rail 28/28/1,75 3M	3	
Varifix assembly rails 28/28/1,75			annex A3
product description dimensions and materials			

Table A4: Dimension and materials of the assembly rail 36/36/2,5



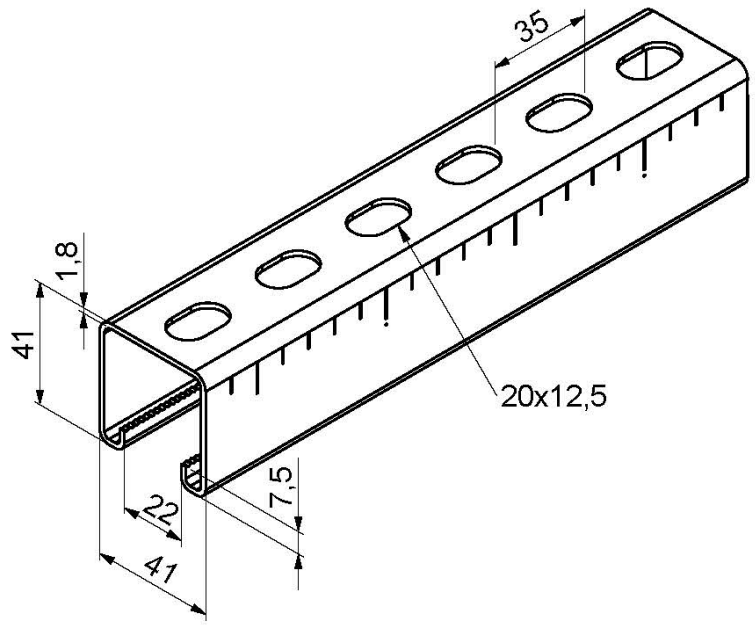
article number	title	length (m)	material
0862001004	Varifix® C-assembly rail 36/36/2,5 2M	2	S280GD + Z140-M-A-C according to EN 10346
0862001224	Varifix® C-assembly rail 36/36/2,5 3M	3	
0862001230	Varifix® C-assembly rail 36/36/2,5 6M	6	
Varifix assembly rails 36/36/2,5			annex A4
product description dimensions and materials			

Table A5: Dimension and materials of the assembly rail 41/22/1,8



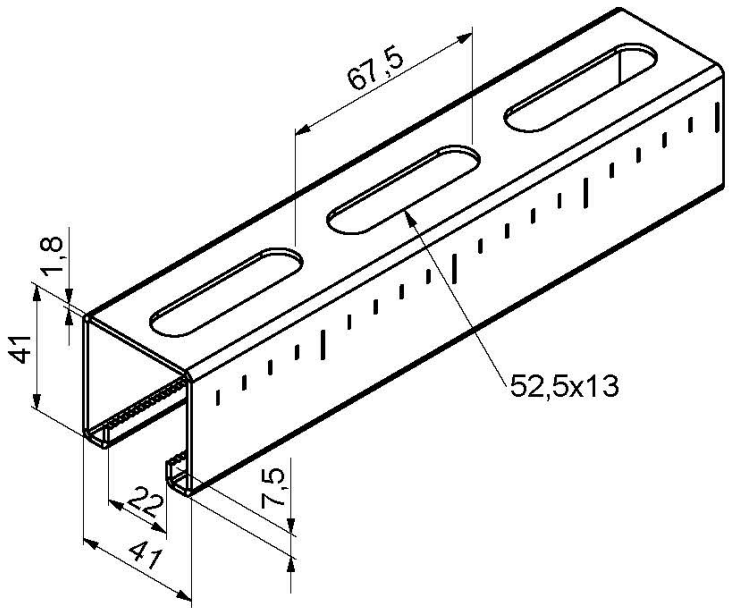
article number	title	length (m)	material
0862001233	Varifix® C-assembly rail 41/22/1,8 3M	3	S280GD + Z140-M-A-C according to EN 10346
0862001235	Varifix® C-assembly rail 41/22/1,8 6M	6	
Varifix assembly rails 41/22/1,8			annex A5
product description dimensions and materials			

Table A6: Dimension and materials of the assembly rail 41/41/1,8



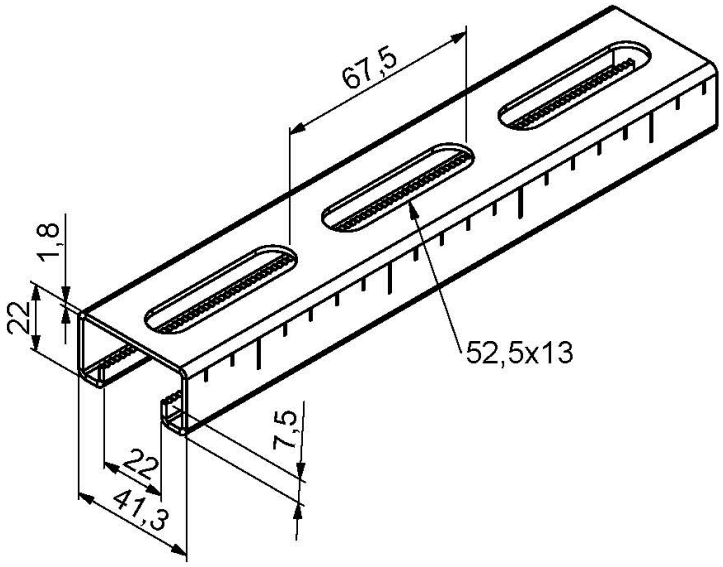
article number	title	length (m)	material
0862001007	Varifix® C-assembly rail 41/41/1,8 2M	2	S280GD + Z140-M-A-C according to EN 10346
0862001227	Varifix® C-assembly rail 41/41/1,8 3M	3	
0862001237	Varifix® C-assembly rail 41/41/1,8 6M	6	
Varifix assembly rails 41/41/1,8			annex A6
product description dimensions and materials			

Table A7: Dimension and materials of the assembly rail 41/41/1,8 Maritime



article number	title	length (m)	material
0862001290	Varifix® C-assembly rail 41/41/1,8 Maritime 2M	2	S280GD + Z140-M-A-C according to EN 10346
0862001291	Varifix® C-assembly rail 41/41/1,8 Maritime 3M	3	
0862001292	Varifix® C-assembly rail 41/41/1,8 Maritime 6M	6	
Varifix assembly rails 41/41/1,8 Maritime			annex A7
product description dimensions and materials			

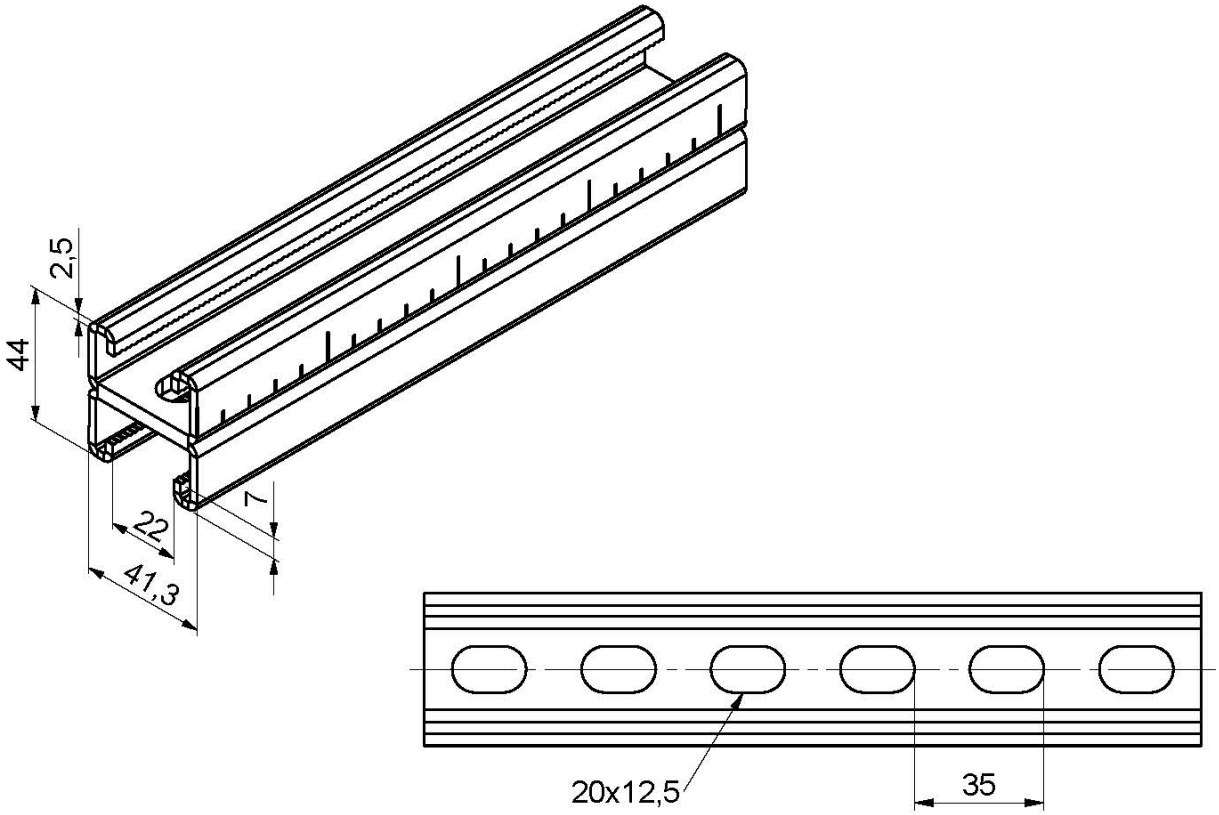
Table A8: Dimension and materials of the assembly rail 41/22/1,8 Maritime



article number	title	length (m)	material
0862001270	Varifix® C-assembly rail 41/22/1,8 2M	2	S280GD + Z140-M-A-C according EN 10346
0862001271	Varifix® C-assembly rail 41/22/1,8 3M	3	
0862001272	Varifix® C-assembly rail 41/22/1,8 6M	6	

Varifix assembly rails 41/22/1,8 Maritime	annex A8
product description dimensions and materials	

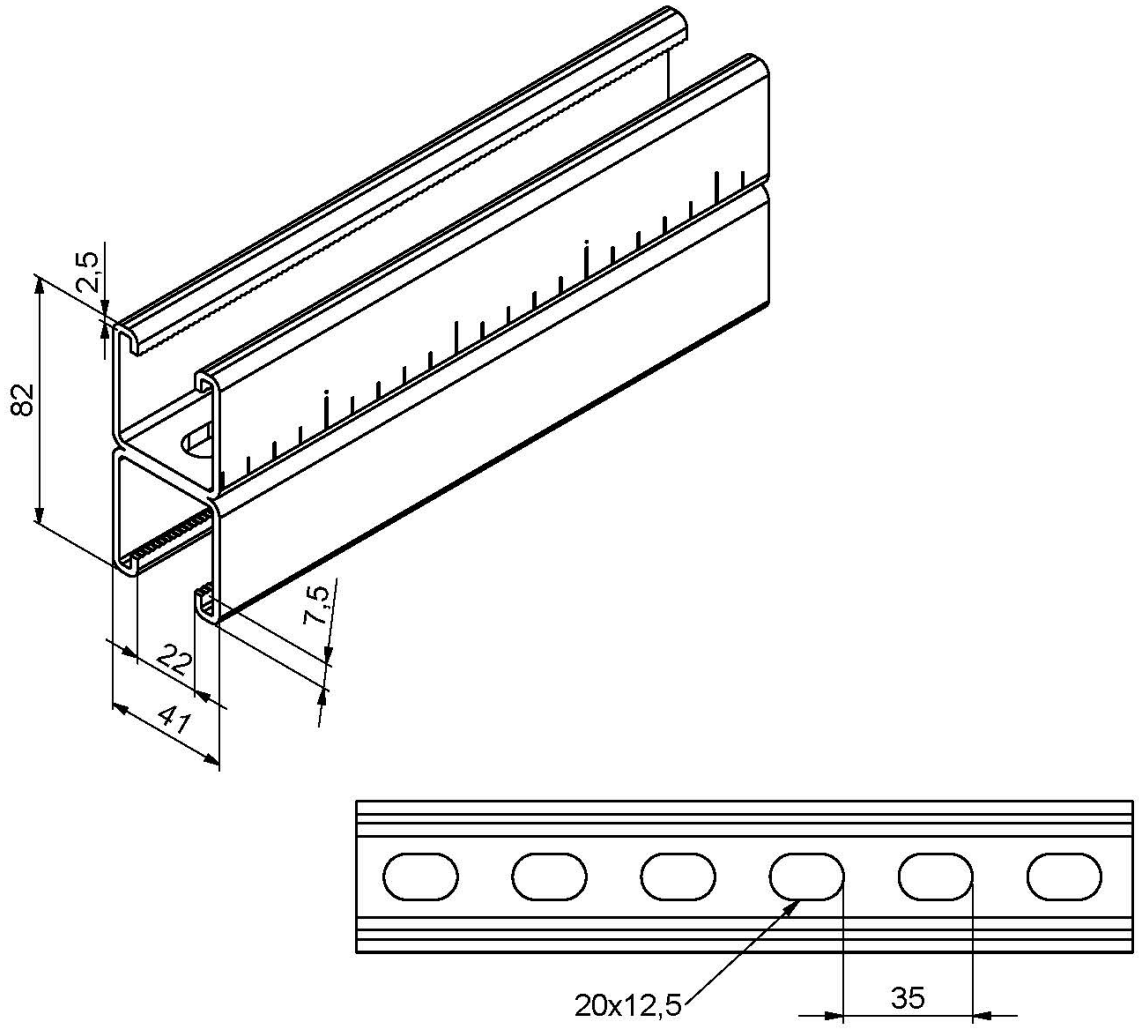
Table A9: Dimension and materials of the assembly rail 41/44/2,5



article number	title	length (m)	material
0862001380	Varifix® C-assembly rail 41/44/2,5 3M	3	S280GD + Z140-M-A-C according to EN 10346
0862001381	Varifix® C-assembly rail 41/44/2,5 6M	6	

Varifix assembly rails 41/44/2,5	annex A9
product description dimensions and materials	

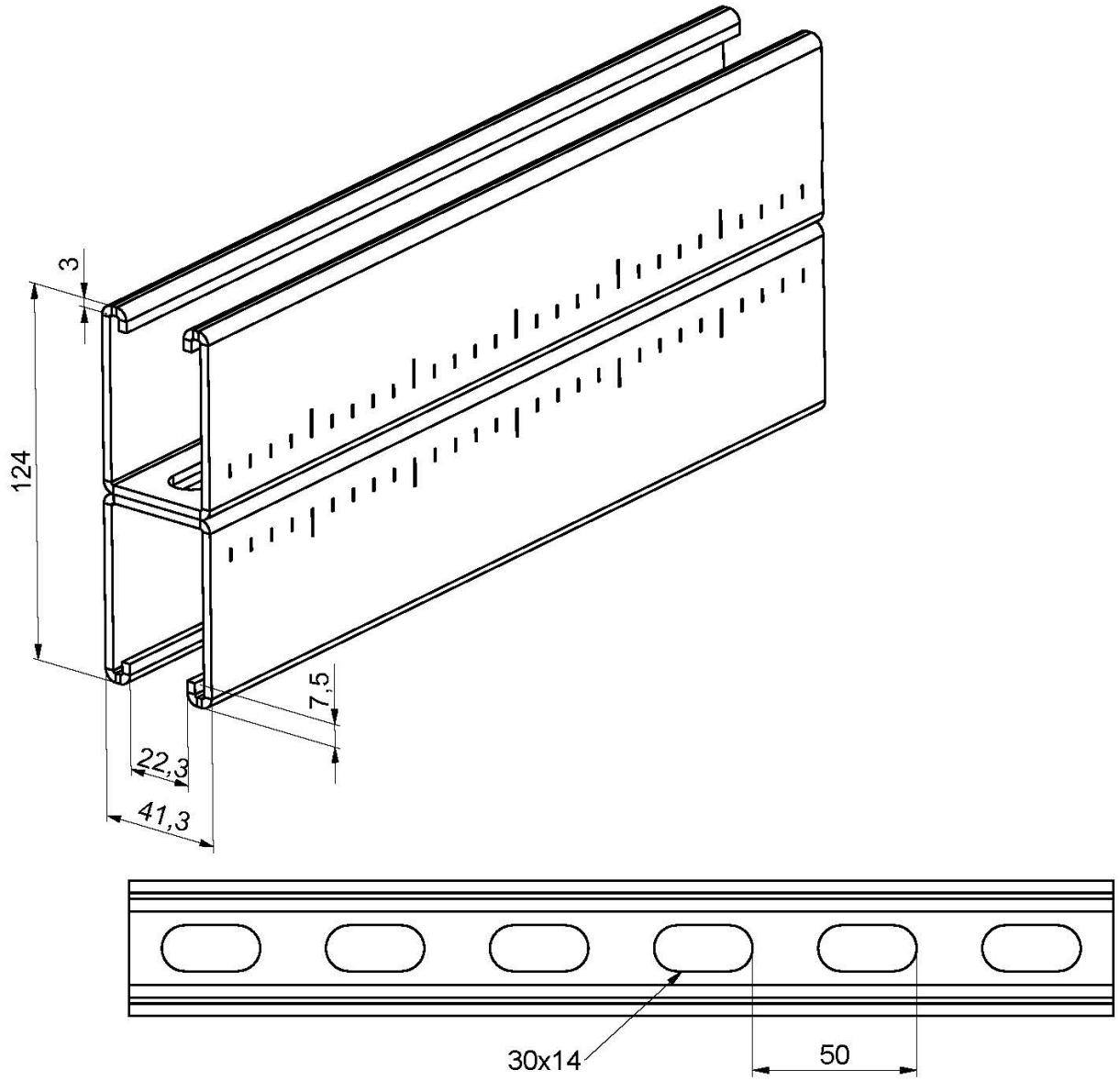
Table A10: Dimension and materials of the assembly rail 41/82/2,5



article number	title	length (m)	material
0862001390	Varifix® C-assembly rail 41/82/2,5 6M	6	S280GD + Z140-M-A-C according to EN 10346
5254001390	Varifix® C-assembly rail 41/82/2,5 6M	6	

Varifix assembly rails 41/82/2,5	annex A10
product description dimensions and materials	

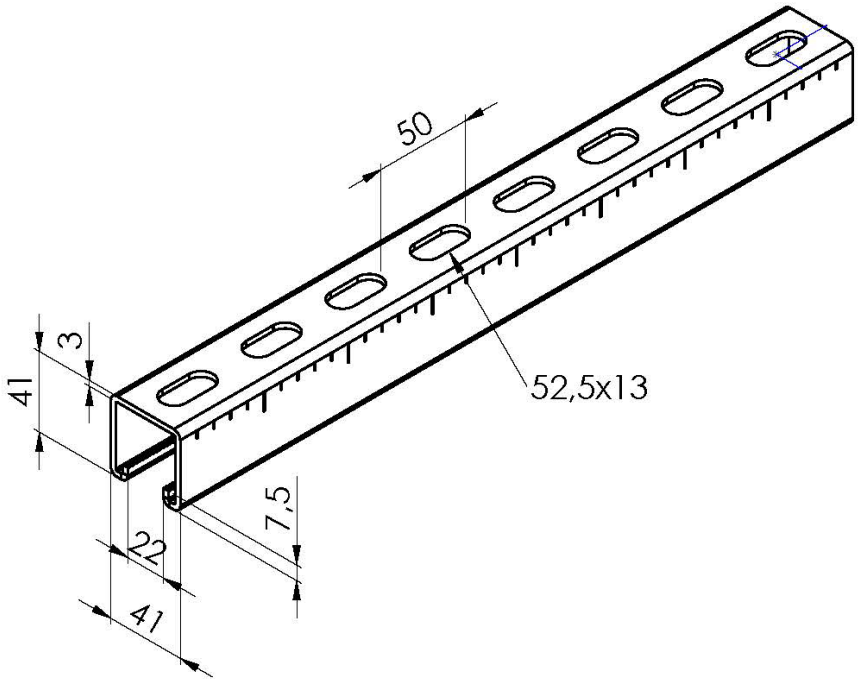
Table A11: Dimensions and materials of the assembly rail 41/124/3,0



article number	title	length (m)	material
0862001400	Varifix® C-assembly rail 41/124/3,0 6M	6	S280GD + Z140-M-A-C according to EN 10346
5254001400	Varifix® c-assembly rail 41/124/3,0 6M	6	

Varifix assembly rails 41/124/3,0	annex A11
product description dimensions and materials	

Table A12: Dimension and materials of the assembly rail 41/41/3,0 Maritime



article number	title	length (m)	material
0862001260	VARIFIX® C-assembly rail 41/41/3,0 Maritime 2M	2	S280GD + Z140-M-A-C according EN 10346
0862001261	VARIFIX® C-assembly rail 41/41/3,0 Maritime 3M	3	
0862001262	VARIFIX® C-assembly rail 41/41/3,0 Maritime 6M	6	

Varifix assembly rails 41/41/3,0 Maritime	annex A12
product description dimensions and materials	

- Würth Varifix® assembly rails 26/18/1,25; 26/26/1,25; 28/28/1,75; 36/36/2,5; 41/22/1,8; 41/41/1,8; 41/22/1,8 Maritime; 41/41/1,8 Maritime; 41/41/3,0 Maritime; 41/44/2,5D; 41/82/2,5D and 41/124/3,0D are used to transfer loads from building services components such as pipes and equipment for sprinkler, water, heating, cooling, ventilation, electrical and other installations. The load-bearing performances given for Würth Varifix® assembly channels 26/18/1.25; 26/26/1.25; 28/28/1.75; 36/36/2.5; 41/22/1.8; 41/41/1.8; 41/22/1.8 Maritime; 41/41/1.8 Maritime; 41/41/3,0 Maritime; 41/44/2.5D; 41/82/2.5D and 41/124/3.0D, apply to the conditions described in Section 2 of this European Technical Assessment.

- Würth Varifix® assembly rails 26/18/1.25; 26/26/1.25; 28/28/1.75; 36/36/2.5; 41/22/1.8; 41/41/1.8; 41/22/1.8 Maritime; 41/41/1.8 Maritime; 41/41/3,0 Maritime; 41/44/2.5D; 41/82/2.5D and 41/124/3.0D are used at room temperature in installation systems of technical building equipment.

- The data on resistances and deformations at room temperature apply to static and centric actions.

- Würth Varifix® assembly rails 26/18/1.25; 26/26/1.25; 28/28/1.75; 36/36/2.5; 41/22/1.8; 41/41/1.8; 41/22/1.8 Maritime; 41/41/1.8 Maritime; 41/41/3,0 Maritime; mounted directly to the ceiling are designed with the rail profile open at the bottom. The anchoring of the rails in the substrate is carried out for applications with Varifix® retaining clamp or Varifix® retaining clamp heavy. Würth Varifix® assembly rails 26/18/1.25; 26/26/1.25; 28/28/1.75; 36/36/2.5; 41/22/1.8; 41/41/1.8; 41/22/1.8 Maritime; 41/41/1.8 Maritime; 41/41/3,0 Maritime; can be anchored to the substrate for room temperature applications with suitable fasteners that pass through the slotted holes of the rails without the use of Varifix® retaining clamp.

- For suspended rail systems, the rail profiles are designed to be open at the top or bottom. On the bottom or top of suspended rail systems, Varifix® retaining clamp or Varifix® retaining clamp heavy must be used on both sides for force-fit fastening with nuts and threaded rods. The design of the junction between the rail and the threaded rod for the suspension of the system is carried out with Varifix® retaining clamp and Varifix® retaining clamp heavy and nuts on both sides and threaded rods that are frictionally connected.

- Threaded rods and other attachments may only be guided through the closed slotted holes in the back of the rail.

- The fastening elements for anchoring in the subsoil must be suitable for this purpose and have a fire protection certificate.

- Prior to installation, it must be ensured that the components to be accommodated, the components of the installation system, the anchoring of the assembly rails to the substrate, and the substrate itself are suitable for accommodating the specified resistance values of the assembly rails and the installation system and have fire protection verification.

- The installation must be carried out by appropriately trained personnel under the supervision of the site manager. The general installation instructions of the manufacturer must be observed.

Varifix® assembly rails 26/18/1,25; 26/26/1,25; 28/28/1,75; 36/36/2,5; 41/22/1,8; 41/41/1,8; 41/22/1,8 Maritime; 41/41/1,8 Maritime; 41/41/3,0 Maritime; 41/44/2,5 D; 41/82/2,5D; 41/124/3,0D	Annex B1
Prerequisite for the performance evaluation	

Table B2: Cross-section values of the mounting rails

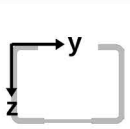
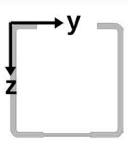
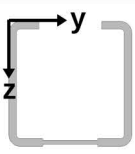
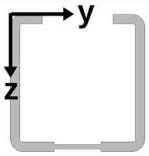
Description	Symbol	26/18/1,25	26/26/1,25	28/28/1,75	36/36/2,5	Unit
						
Cross-section class acc. EN 1993-1-1	-	3	3	3	3	-
Cross-sectional area	A	76,59	96,592	142,87	263,20	mm²
	A_{geom}	76,59	96,592	142,87	263,20	mm²
Shear areas	A_y	15,68	14,495	20,82	40,25	mm²
	A_z	35,13	54,950	81,85	148,64	mm²
Centroid position	$y_{C,0}$	13,00	13,000	14,00	18,00	mm
	$z_{C,0}$	10,19	14,397	15,31	20,04	mm
Moments of inertia	I_y	3294,68	8267,355	13781,38	41339,92	mm⁴
	I_z	8732,49	11797,907	19644,18	58515,43	mm⁴
Inclination of principal axes	α	0,00	0,00	0,00	0,00	°
Polar moments of inertia	I_p	12027,17	20065,262	33425,56	99855,36	mm⁴
	$I_{p,M}$	32870,34	77490,509	1,31E+05	382536,16	mm⁴
Radii of gyration	i_y	6,56	9,252	9,82	12,53	mm
	i_z	10,68	11,052	11,73	14,91	mm
Polar radii of gyration	i_p	12,53	14,413	15,30	19,48	mm
	$r_{p,M}$	20,72	28,324	30,32	38,12	mm
Warping radius of gyration	$i_{\omega,M}$	4,34	4,432	4,77	6,00	mm
Cross-section weight	G	0,60	0,76	1,12	2,07	kg/m
Cross-section perimeter	U	136,63	168,633	180,71	230,26	mm
Torsional constant	I_t	31,35	41,765	117,85	451,67	mm⁴
Secondary torsional constant	$I_{t,s}$	8174,34	12147,694	20659,10	59886,30	mm⁴
Location of the shear center	$y_{M,0}$	13,00	13,000	14,00	18,00	mm
	$z_{M,0}$	26,69	38,780	41,48	52,81	mm
	y_M	0,00	0,000	0,00	0,00	mm
	z_M	16,50	24,383	26,18	32,77	mm
Warping constants	$I_{\omega,S}$	2,998E+06	8,5410E+06	1,65E+07	7,671E+07	mm⁶
	$I_{\omega,M}$	620436,79	1,5223E+06	2,98E+06	1,377E+07	mm⁶
Auxiliary value for warp rotation	$r_{\omega,M}$	0,000	0,000	0,00	0,000	
Section moduli	$W_{y,max}$	421,98	712,514	1085,58	2589,76	mm³
	$W_{y,min}$	-323,25	-574,244	-900,45	-2063,16	mm³
	$W_{z,max}$	671,73	907,531	1403,16	3250,86	mm³
	$W_{z,min}$	-671,73	-907,531	-1403,16	-3250,86	mm³
Warping section moduli	$W_{\omega,M,max}$	2694,52	4428,956	7524,26	21900,55	mm⁴
	$W_{\omega,M,min}$	-2693,56	-4430,227	-7526,60	-21907,12	mm⁴
Torsional section modulus	W_t	25,08	33,412	67,34	180,67	mm³
Buckling curve	BC_y	c	c	c	c	-
	BC_z	c	c	c	c	-

Table B3: Cross-section values of the mounting rails

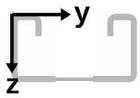
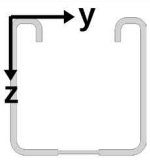
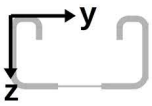
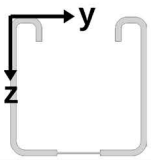
Description	Symbol	41/22/1,8	41/41/1,8	41/22/1,8 maritime	41/41/1,8 maritime	Unit
						
Cross-section class acc. EN 1993-1-1	-	3	3	3,00	3	-
Cross-sectional area	A	175,21	237,54	163,03	231,43	mm²
	A_{geom}	175,21	237,54	163,03	231,43	mm²
Shear areas	A_y	36,46	32,94	25,46	24,46	mm²
	A_z	51,33	119,11	52,50	120,29	mm²
Centroid position	$y_{c,0}$	20,65	20,50	20,50	20,50	mm
	$z_{c,0}$	12,09	21,74	11,77	21,26	mm
Moments of inertia	I_y	11604,95	51897,89	10296,36	49784,59	mm⁴
	I_z	45335,75	68944,85	42552,00	68847,02	mm⁴
Inclination of principal axes	α	0,00	0,00	0,00	0,00	°
Polar moments of inertia	I_p	56940,70	120842,75	52848,36	118631,61	mm⁴
	$I_{p,M}$	142284,64	532691,54	134325,25	529927,09	mm⁴
Radii of gyration	i_y	8,14	14,78	7,95	14,67	mm
	i_z	16,09	17,04	16,16	17,25	mm
Polar radii of gyration	i_p	18,03	22,56	18,00	22,64	mm
	$r_{p,M}$	28,50	47,36	28,70	47,85	mm
Warping radius of gyration	$i_{\omega,M}$	7,13	7,46	6,88	7,48	mm
Cross-section weight	G	1,37	1,86	1,28	1,82	kg/m
Cross-section perimeter	U	212,16	281,65	206,53	282,53	mm
Torsional constant	I_t	148,63	201,94	124,41	198,29	mm⁴
Secondary torsional constant	$I_{t,S}$	32778,26	72092,07	31449,04	71689,24	mm⁴
Location of the shear center	$y_{M,0}$	20,65	20,50	20,50	20,50	mm
	$z_{M,0}$	34,16	63,38	34,13	63,42	mm
	y_M	0,00	0,00	0,00	0,00	mm
	z_M	22,07	41,64	22,36	42,16	mm
Warping constants	$I_{\omega,S}$	2,933E+07	1,493E+08	2,764E+07	1,520E+08	mm⁶
	$I_{\omega,M}$	7,234E+06	2,967E+07	6,357E+06	2,962E+07	mm⁶
Auxiliary value for warp rotation	$r_{\omega M}$	0,000	0,000	0,00	0,000	
Section moduli	$W_{y,max}$	1171,29	2695,11	1006,66	2521,88	mm³
	$W_{y,min}$	-959,71	-2386,80	-874,67	-2341,82	mm³
	$W_{z,max}$	2195,44	3363,16	2075,71	3358,39	mm³
	$W_{z,min}$	-2195,44	-3363,16	-2075,71	-3358,39	mm³
Warping section moduli	$W_{\omega,M,max}$	18876,86	39389,31	17701,89	39338,85	mm⁴
	$W_{\omega,M,min}$	-18887,31	-39412,61	-17719,80	-39362,78	mm⁴
Torsional section modulus	W_t	82,57	112,19	69,12	110,16	mm³
Buckling curve	BC_y	c	c	c	c	-
	BC_z	c	c	c	c	-

Table B4: Cross-section values of the mounting rails

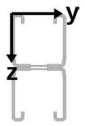
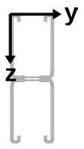
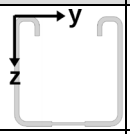
Description	Symbol	41/44/2,5 longitudinal welded	41/82/2,5 longitudinal welded	41/124/3,0 longitudinal welded	Unit
					
Cross-section class acc. EN 1993-1-1	-	3	3	3	-
Cross-sectional area	A	455,82	645,82	1004,30	mm²
	A_{geom}	455,82	645,82	1004,30	mm²
Shear areas	A_y	99,14	89,76	89,93	mm²
	A_z	143,02	315,63	581,58	mm²
Centroid position	$y_{c,0}$	20,50	20,50	20,65	mm
	$z_{c,0}$	22,01	41,01	62,00	mm
Moments of inertia	I_y	71269,74	373170,70	1,335E+06	mm⁴
	I_z	111562,49	182068,31	305843,57	mm⁴
Inclination of principal axes	α	0,00	0,00	0,00	°
Polar moments of inertia	I_p	182832,23	555239,01	1,641E+06	mm⁴
	$I_{p,M}$	182832,23	555239,01	1,641E+06	mm⁴
Radii of gyration	i_y	12,50	24,04	36,46	mm
	i_z	15,64	16,79	17,45	mm
Polar radii of gyration	i_p	20,03	29,32	40,42	mm
	$r_{p,M}$	20,03	29,32	40,42	mm
Warping radius of gyration	$i_{\omega,M}$	13,71	17,57	18,58	mm
Cross-section weight	G	3,58	5,07	7,9	kg/m
Cross-section perimeter	U	363,20	515,20	681,41	mm
Torsional constant	I_t	1265,10	1660,93	3360,71	mm⁴
Secondary torsional constant	$I_{t,S}$	71277,22	151120,14	259132,01	mm⁴
Location of the shear center	$y_{M,0}$	20,50	20,50	20,65	mm
	$z_{M,0}$	22,01	41,01	62,00	mm
	y_M	0,00	0,00	0,00	mm
	z_M	0,00	0,00	0,00	mm
Warping constants	$I_{\omega,S}$	3,435E+07	1,714E+08	5,668E+08	mm⁶
	$I_{\omega,M}$	3,435E+07	1,714E+08	5,668E+08	mm⁶
Auxiliary value for warp rotation	$r_{\omega,M}$	0,000	0,000	0,000	
Section moduli	$W_{y,max}$	3238,06	9099,51	21536,26	mm³
	$W_{y,min}$	-3238,06	-9099,51	-21536,26	mm³
	$W_{z,max}$	5442,07	8881,38	14810,83	mm³
	$W_{z,min}$	-5442,07	-8881,38	-14810,83	mm³
Warping section moduli	$W_{\omega,M,max}$	68465,05	171988,62	376759,78	mm⁴
	$W_{\omega,M,min}$	-68468,25	-1,720E+05	-3,768E+05	mm⁴
Torsional section modulus	W_t	165,00	165,00	193,80	mm³
Buckling curve	BC_y	c	c	c	-
	BC_z	c	c	c	-

Table B5: Cross-section values of the mounting rails

Description	Symbol	41/41/3,0 Maritime	Unit
			
Cross-section class acc. EN 1993-1-1	-	3	-
Cross-sectional area	A	369,00	mm^2
	A_{geom}	369,00	mm^2
Shear areas	A_y	39,77	mm^2
	A_z	195,60	mm^2
Centroid position	$y_{C,0}$	20,50	mm
	$z_{C,0}$	21,69	mm
Moments of inertia	I_y	74172,88	mm^4
	I_z	105641,86	mm^4
Inclination of principal axes	α	0,00	°
Polar moments of inertia	I_p	179814,74	mm^4
	$I_{p,M}$	760074,19	mm^4
Radii of gyration	i_y	14,18	mm
	i_z	16,92	mm
Polar radii of gyration	i_p	22,07	mm
	$r_{p,M}$	45,39	mm
Warping radius of gyration	$i_{\omega,M}$	6,99	mm
Cross-section weight	G	2,90	kg/m
Cross-section perimeter	U	275,31	mm
Torsional constant	I_t	854,34	mm^4
Secondary torsional constant	$I_{t,s}$	103196,41	mm^4
Location of the shear center	$y_{M,0}$	20,50	mm
	$z_{M,0}$	61,34	mm
	y_M	0,00	mm
	z_M	39,65	mm
Warping constants	$I_{\omega,S}$	2,036E+08	mm^6
	$I_{\omega,M}$	3,714E+07	mm^6
Auxiliary value for warp rotation	$r_{\omega,M}$	0,000	
Section moduli	$W_{y,max}$	3841,17	mm^3
	$W_{y,min}$	-3419,67	mm^3
	$W_{z,max}$	5153,26	mm^3
	$W_{z,min}$	-5153,26	mm^3
Warping section moduli	$W_{\omega,M,max}$	55999,45	mm^4
	$W_{\omega,M,min}$	-56031,20	mm^4
Torsional section modulus	W_t	284,78	mm^3
Buckling curve	BC_y	c	-
	BC_z	c	-