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Designated according to Article 29 of Regulation (EU) No 305/2011

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European Technical Assessment

ETA-20/0621 of 05.06.2025

General part

Technical Assessment Body issuing the European Technical Assessment	Österreichisches Institut für Bautechnik (OIB) Austrian Institute of Construction Engineering
Trade name of the construction product	Fahrbahnübergangskonstruktion Typ SP
Product family to which the construction product belongs	Nosing expansion joints for road bridges
Manufacturer	Schreiber Brücken- Dehntechnik GmbH Am Moosbach 10 + 12 74535 Mainhardt GERMANY
Manufacturing plant(s)	Schreiber Brücken- Dehntechnik GmbH Am Moosbach 10 + 12 74535 Mainhardt GERMANY
This European Technical Assessment contains	30 pages including 18 annexes which form an integral part of this assessment.
This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of	European Assessment Document (EAD) 120109-00-0107 “Nosing expansion joints for road bridges”.
This European Technical Assessment replaces	European Technical Assessment ETA-20/0621 of 31.08.2020.

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Specific parts

1 Technical description of the product

The nosing expansion joint **Fahrbahnübergangskonstruktion Typ SP** is a kit consisting of the following components:

- Flexible elastomeric sealing element “SP 150” made of EPDM (defined in the technical documentation, characteristics given in Table A.3.1 in Annex 3 in this ETA), according to Figures 1 to 4 (Position 5), Annex 1 and Annex 3 in this ETA
- Edge profiles:
  SP75: for Type SP and Type SP-e of at least steel grade S235J2+N according to EN 10025-2 (Position 1 in Figures 1 and 2 in this ETA)
  SP-NR: for Type SP-NR of at least steel grade 1.4571 according to EN 10088-1 (Position 1 in Figure 3 in this ETA)
  SPR: for Type SPR of at least steel grade S235J2+N according to EN 10025-2 (Position 1 in Figure 4 in this ETA)
  SP45: for footpath of at least steel grade S235J2+N according to EN 10025-2, details are given in Annex 1 in this ETA
- Extension steel plate (for pavement thickness >75 mm up to 180 mm for Type SP-e and >45 mm up to 180 mm for Type SP-NR respectively) of at least steel grade S235J2+N according to EN 10025-2 (Position 6 in Figures 2 and 3 in this ETA)
- Connecting angle for connection of the edge profile to the anchor plate of at least steel grade S235J2+N according to EN 10025-2 (Position 2 in Figures 1, 2 and 3 in this ETA)
- Anchor loop and anchor plate for the carriageway of at least steel grade S235J2+N according to EN 10025-2 (Position 3 and 4 in Figures 1 to 4 of this ETA) and anchor loop for the footpath of at least steel grade S235J2+N according to EN 10025-2. The mechanical fixation of the nosing expansion joint **Fahrbahnübergangskonstruktion Typ SP** to the substructure is done by means of the anchor loop and anchor plate. Details of the anchorage system are given in Annex 1 and Annex 2 of this ETA
- Cover plate for the intended use footpath (optional), and cover plate for kerbs (optional), depicted in Annex 1 of this ETA, at least steel grade 1.4571 according to EN 10088-1, fixation according to Annex 1.11

The technical details of the components of the nosing expansion joint kit are deposited with the Technical Assessment Body Österreichisches Institut für Bautechnik.

The subject of this European Technical Assessment (ETA) is the complete nosing expansion joint kit **Fahrbahnübergangskonstruktion Typ SP**.

A schematic representation of the types of the nosing expansion joint **Fahrbahnübergangskonstruktion Typ SP** is shown in Figures 1 to 4 of this ETA and detailed drawings are depicted in Annex 1 of this ETA.

The minimum concrete quality for recess filling is C30/37 low shrinkage concrete according to EN 206. The anchor forces according to Annex 2 of this ETA shall be considered for the dimensioning of the reinforcement for connecting the expansion joint to the sub structure (not part of the kit).

Fahrbahnübergangskonstruktion Typ SP comprises the following subtypes: Type SP, Type SP-e, Type SP-NR and Type SPR, as stated thereafter.

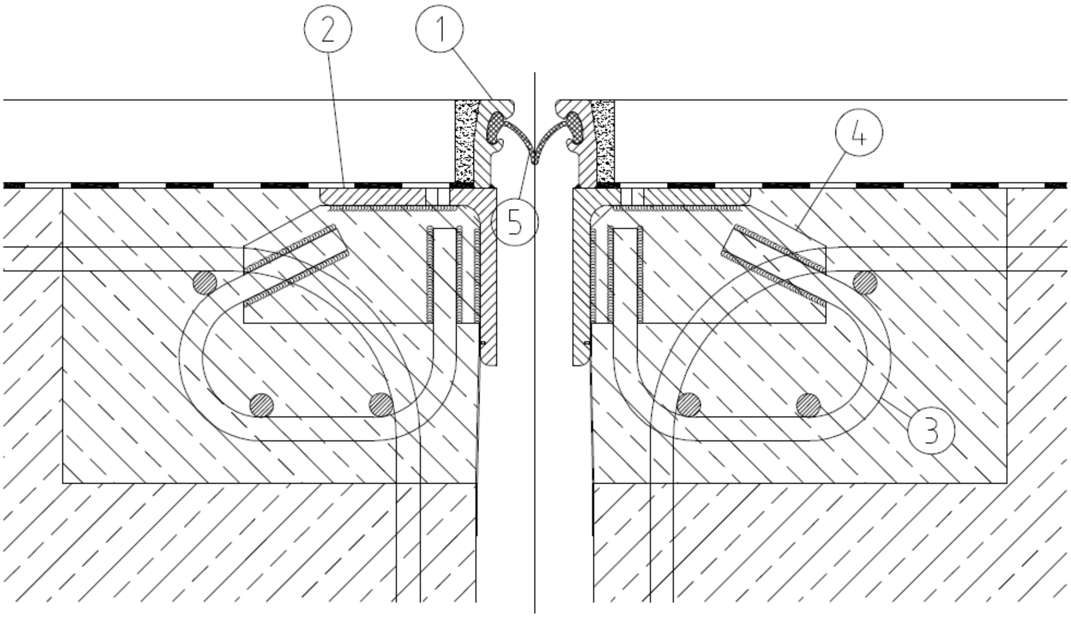


Figure 1: Exemplary cross section of the nosing expansion joint
Fahrbahnübergangskonstruktion Typ SP, Type SP, including anchorage,
pavement thickness 75 mm

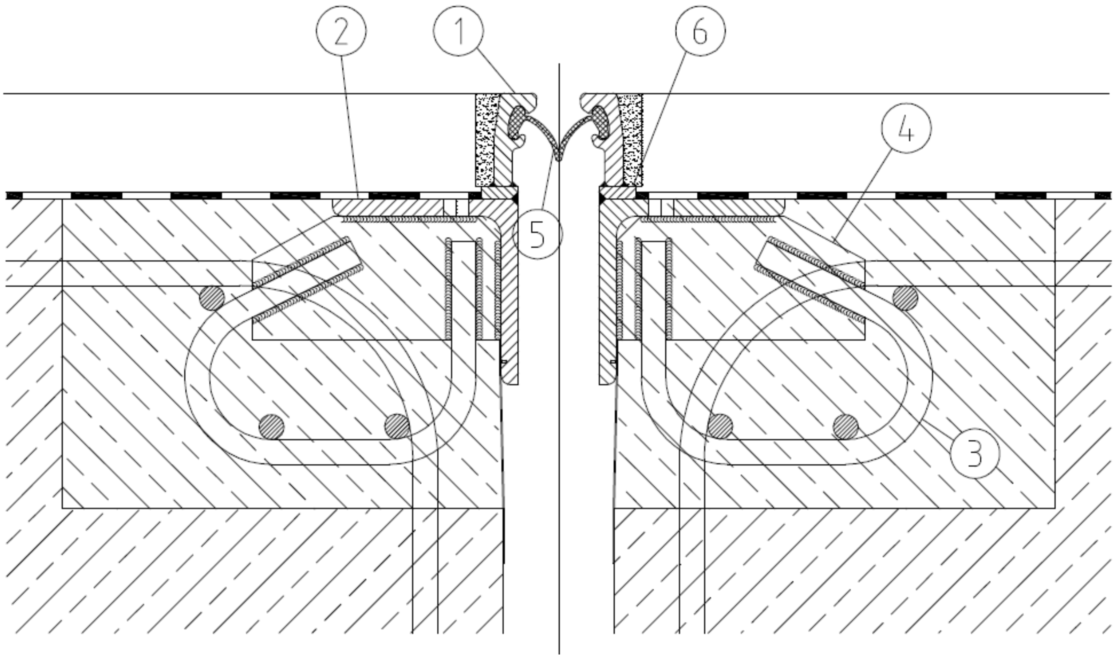


Figure 2: Exemplary cross section of the nosing expansion joint
Fahrbahnübergangskonstruktion Typ SP, Type SP-e, including anchorage,
pavement thickness >75 mm – 180 mm

Key for Figures 1 and 2:

Pos.1	Edge profile SP75 for Type SP and Type SP-e respectively
Pos.2	Connecting angle
Pos.3	Anchor loop
Pos.4	Anchor plate
Pos.5	Elastomeric sealing element made of EPDM
Pos.6	Extension steel plate (for Type SP-e only)

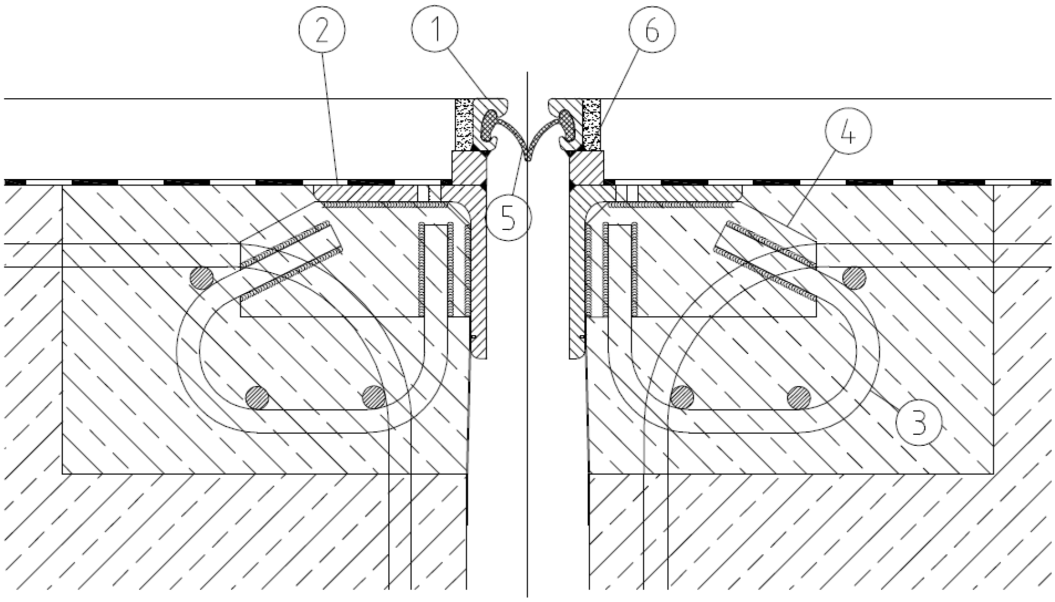


Figure 3: Exemplary cross section of the nosing expansion joint
Fahrbahnübergangskonstruktion Typ SP, Type SP-NR, including anchorage,
pavement thickness 45 mm – 180 mm

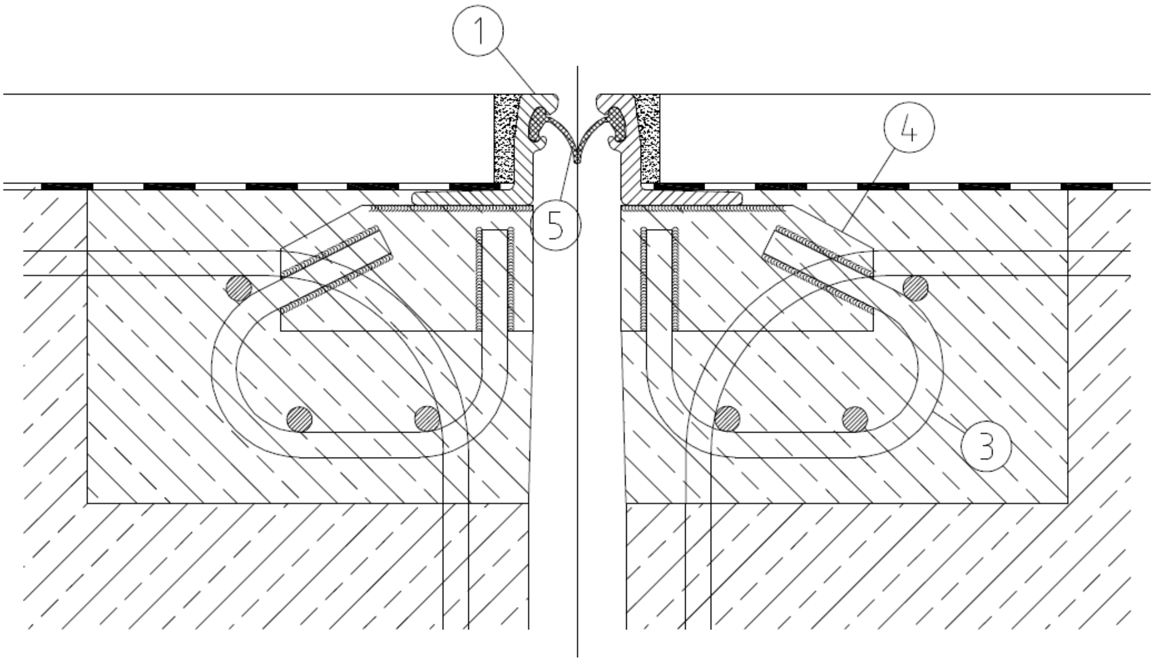


Figure 4: Exemplary cross section of the nosing expansion joint
Fahrbahnübergangskonstruktion Typ SP, Type SPR, including anchorage,
pavement thickness 75 mm

Key for Figures 3 and 4:

Pos.1	Edge profile SP-NR for Type SP-NR and edge profile SPR for Type SPR
Pos.2	Connecting angle (for Type SP-NR only)
Pos.3	Anchor loop
Pos.4	Anchor plate
Pos.5	Elastomeric sealing element made of EPDM
Pos.6	Extension steel plate (for Type SP-NR only)

The substructure, bridge deck waterproofing and adjacent pavement in Figures 1, 2, 3 and 4 are not part of the kit covered by this ETA.

The assessed nominal movement capacity is given in Table 1, related reaction forces are given in Table 3 of this ETA.

Table 1: Movement capacity of **Fahrbahnübergangskonstruktion Typ SP** in different directions for an angle between bridge axis and joint axis of 90°

Movement range		
Maximum longitudinal movement	max u_x =	±47,5 mm (Σ 95 mm) *)
Maximum vertical movement	max u_z =	±20 mm
Maximum transversal movement	max u_y =	±75 mm
Maximum rotations	Limitation as given for transversal, longitudinal and vertical movement	

*) The maximum longitudinal movement with respect to the different skew angles β and various user categories is given in Table 2 in this ETA.

The minimum opening of the nosing expansion joint **Fahrbahnübergangskonstruktion Typ SP** is 5 mm.

The values for the skew angle β (angle between traffic direction and joint axis) and the values of the related nominal movement capacity with respect to allowable gaps and voids are given in Table 2 in this ETA.

Table 2: Standard geometry of nosing expansion joint **Fahrbahnübergangskonstruktion Typ SP** in respect to its movement capacity

User category	**Angle between traffic direction and joint axis**	**Minimal gap**	**Maximal gap**	**Total movement**
	β [°]	**[mm]**	**[mm]**	**[mm]**
Vehicles	135 ≥ x ≥ 45	5	100	95
Cyclists			100	95
Pedestrians			100 1)	95 1)
	141 ≥ x ≥ 39		80 2)	75 2)

1) including cover plate
2) without cover plate

Table 3: Reaction forces from movement capacity test

Reaction forces	
Maximum tensile force – Horizontal direction	3,0 kN/m
Maximum compression force – Horizontal direction	- 0,7 kN/m
Maximum compression force – Horizontal direction (with maximum transversal movement according to Table 1)	- 5,5 kN/m
Maximum force – Transverse direction	± 2,9 kN/m

The height of the adjacent pavement for **Fahrbahnübergangskonstruktion Typ SP,** Type SP, without extension steel plate and Type SPR (Figures 1 and 4) is 75 mm. It can be raised to a maximum of 180 mm for Type SP-e using different extension steel plates (Figure 2, Position 6). The height of the adjacent pavement for **Fahrbahnübergangskonstruktion Typ SP,** Type SP-NR, without extension steel plate is 45 mm and can be raised to a maximum of 180 mm using different extension steel plates (Figure 3, Position 6).

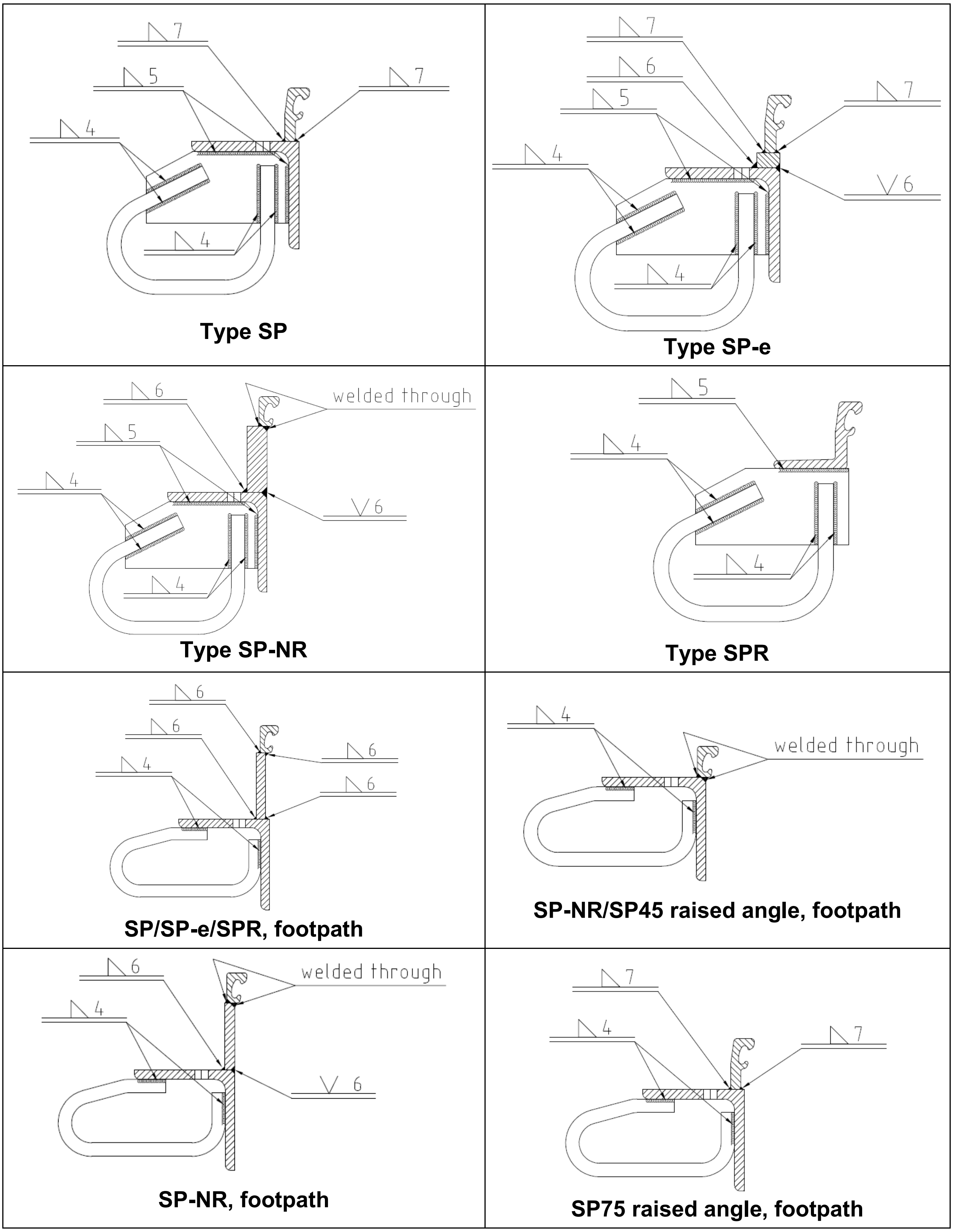


Figure 5: Dimension and type of welds according to EN ISO 2553

In its longitudinal axis the nosing expansion joint **Fahrbahnübergangskonstruktion Typ SP** consists of the carriageway, cyclist areas or footpath, or their possible combinations, as depicted in Annex 1 of this ETA.

Provisions for proper installation (installation manual) of the **Fahrbahnübergangskonstruktion Typ SP** are provided for each delivered kit.

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

The nosing expansion joint **Fahrbahnübergangskonstruktion Typ SP** is to be used in road bridges. It is used for the user categories vehicles, cyclists and pedestrians. The expansion joint is designated to be applied in new structures as well as for refurbishment of structures.

The nosing expansion joint **Fahrbahnübergangskonstruktion Typ SP** is to be used for the user categories Vehicles, Cyclists and Pedestrians as well as the action categories standard action and optional action as detailed in Clause 3.1.1.

The essential characteristics of the nosing expansion joint **Fahrbahnübergangskonstruktion Typ SP** are assessed for operating temperature of -40° C up to +45° C. This has been assessed on basis of material characteristics of the elastomeric sealing element and the steel elements, whereas for the use of steel elements for low temperatures EN 1993-1-10, Table 2.1, is relevant.

The use of the nosing expansion joint **Fahrbahnübergangskonstruktion Typ SP** according to this ETA is covering a maximum slope in traffic direction of 10%.

The use in moveable bridges (e.g. flap bridges, swing bridges) is not covered by this ETA.

The provisions made in this European Technical Assessment are based on a working life of the kit of 50 years (working life category 4 according to EAD 120109-00-0107, clause 1.2.2), provided that the kit is subject to appropriate use and maintenance as specified by the manufacturer in the maintenance instructions which follow every delivered kit. The indications given on the working life cannot be interpreted as a guarantee given by the producer or the Technical Assessment Body, but are to be regarded only as a means for choosing the right product in relation to the expected economically reasonable working life of the works.

The working life of the nosing expansion joint kit is based on the assessment of resistance to fatigue according to the fatigue load model 1 ($FLM1_{EJ}$), meaning the fatigue life may be considered as unlimited according to EAD 120109-00-0107, Annex D, Clause D.2.3.3.

For the replaceable component elastomeric sealing element made of EPDM a shorter working life as for the kit is indicated.

For corrosion protection the indications given in Table 4 of this ETA apply.

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

3.1 Performance of the product

Table 4: Performance of the product in relation to the essential characteristics

Basic requirements for construction works	Essential characteristics	Method of assessment	Performance
BWR 1	Mechanical resistance	EAD, Clause 2.2.1	Fulfilled. Anchor forces are given in Annex A.2 of this ETA. This applies for the product according to Clause 1 and Annex 1 in this ETA with the conditions given in Clause 3.1.1 in this ETA.
	Resistance to fatigue	EAD, Clause 2.2.2	Fulfilled. Anchor forces are given in Annex A.2 of this ETA. This applies for the product according to Clause 1 and Annex 1 in this ETA with the conditions given in Clause 3.1.1 in this ETA.
	Seismic behaviour	EAD, Clause 2.2.3	According to Table 6 in this ETA.
	Movement capacity	EAD, Clause 2.2.4	According to Table 1 and Table 3 in this ETA.
	Cleanability	EAD, Clause 2.2.5	Self-cleaning
	Watertightness	EAD, Clause 2.2.6	Watertight

Basic requirements for construction works	Essential characteristics	Method of assessment	Performance
BWR 1	Durability	Corrosion EAD, Clause 2.2.7.1	Corrosivity categories: C4 or C5 according to EN ISO 9223, dependent on the intended use. Components made of steel: Corrosion protection systems: Durability range “high” (H) or “very high” (VH) acc. to EN ISO 12944-1 and EN ISO 12944-5 Exception: Components made of stainless steel (edge profile for Type SP-NR, cover plates and countersunk screw for fixation of the cover plate, according to Clause 1 in this ETA): CRC III (acc. to EN 1993-1-4, Annex A)
		Chemicals EAD, Clause 2.2.7.2	Elastomeric sealing element: Durable
		Temperature EAD, Clause 2.2.7.3.1	
		Ozone EAD, Clause 2.2.7.3.2	
BWR 3	Content, emission and/or release of dangerous substances	EAD, Clause 2.2.8	No performance assessed.
BWR 4	Ability to bridge gaps and levels in the running surface	Allowable surface gaps and voids EAD, Clause 2.2.9.1	Declaration of allowable gaps in respect to the user categories and the range of angle β between traffic direction and longitudinal axis of the nosing expansion joint: Table 2 in this ETA
		Level differences in the running surface EAD, Clause 2.2.9.1	Unloaded conditions: no level differences (including steps) greater than 3 mm are occurring. Loaded condition: maximum deflection under load: <1 mm
BWR 4	Skid resistance	EAD, Clause 2.2.10	Carriageway: No flat surfaces larger than a 150 mm x 150 mm square, therefore not relevant. Footpath (including cover plate): PTV value: 51

3.1.1 Mechanical resistance

Action categories covered by static calculation:
For the design situation ultimate limit state (ULS), the fundamental combinations of actions and the combination of actions for fatigue limit state (FLS) are considered and assessed.
For the design situation serviceability limit state (SLS) the characteristic combinations of actions and frequent combinations are considered and assessed.
Regarding optional actions, the accidental load on footway, the accidental load on kerb (replaceable) and the seismic design situations according to EAD, Annex D, are considered and assessed.
Assessment of mechanical resistance and resistance to fatigue applies for the following conditions:

Table 5: Preconditions for the assessment

Partial safety factor γ_{M0} (EN 1993-2)	1.00
Partial safety factor γ_{M1} (EN 1993-2)	1.10
Partial safety factor γ_{M2} (EN 1993-2)	1.25
Partial safety factor γ_{M3} (EN 1993-2)	1.25
Partial safety factor γ_{Mf} (EN 1993-1-9)	1.15
Partial safety factor γ_{Ff} (EN 1993-2)	1.00
Fatigue load model (EAD, Clause D.2.3.3)	FLM 1_{EJ}

Table 6: Seismic behaviour of **Fahrbahnübergangskonstruktion Typ SP** – maximum gaps during earthquake according to EAD, Clause D.2.4.2.3 for β = 90°

Category	**Maximum gap during earthquake**
A1	100 mm
A2, B1, B2	144 mm
B3	240 mm
B4	After earthquake: max. gap 300 mm for emergency traffic

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

According to the decision 2001/19/EC[1] of the European Commission, as amended, the system(s) of assessment and verification of constancy of performance (see Annex V of Regulation (EU) No 305/2011) 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 in the control plan deposited by the Technical Assessment Body Österreichisches Institut für Bautechnik.

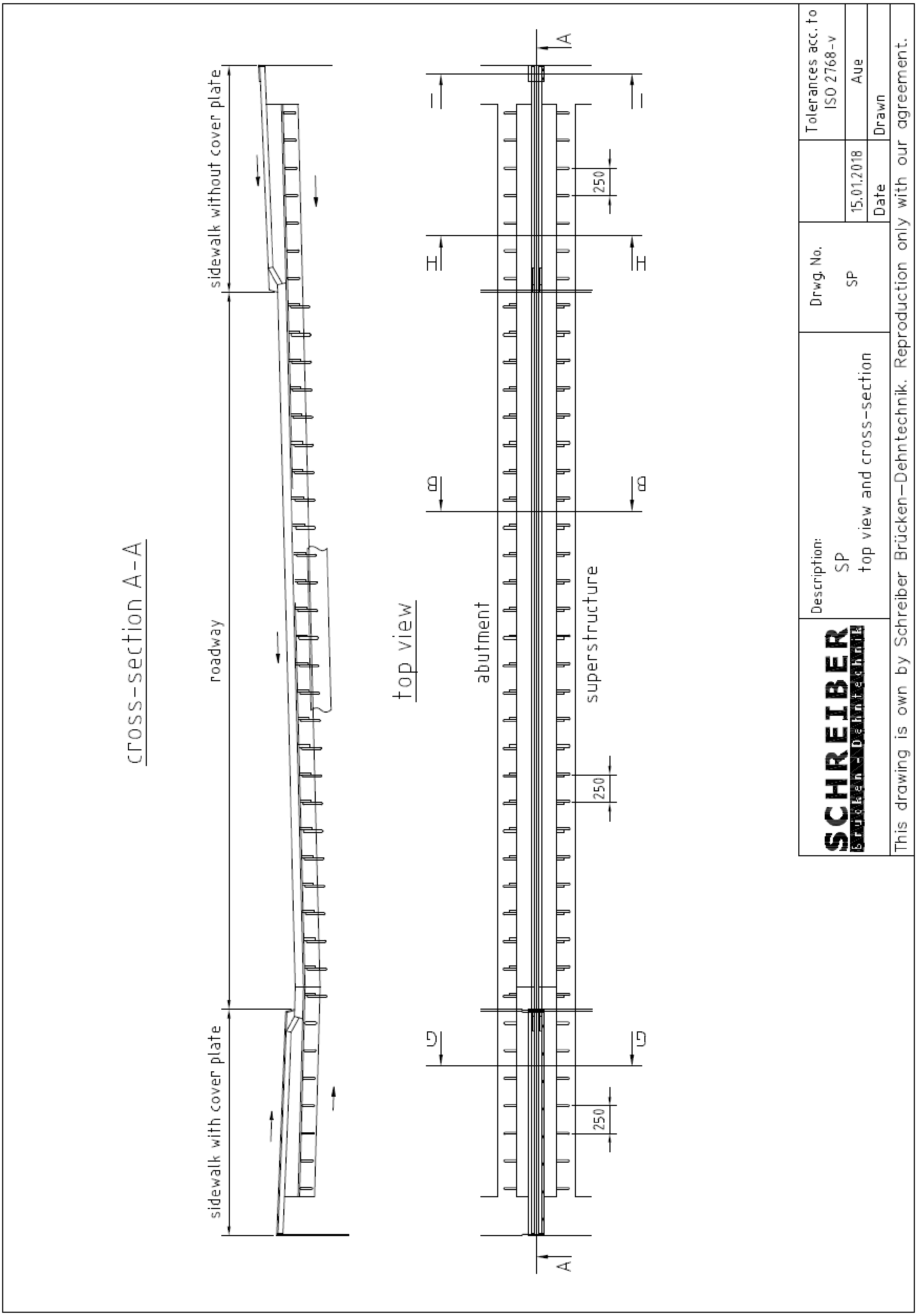
The notified product certification body shall visit the factory at least once a year for surveillance of the manufacturer.

Issued in Vienna on 05.06.2025
by Österreichisches Institut für Bautechnik

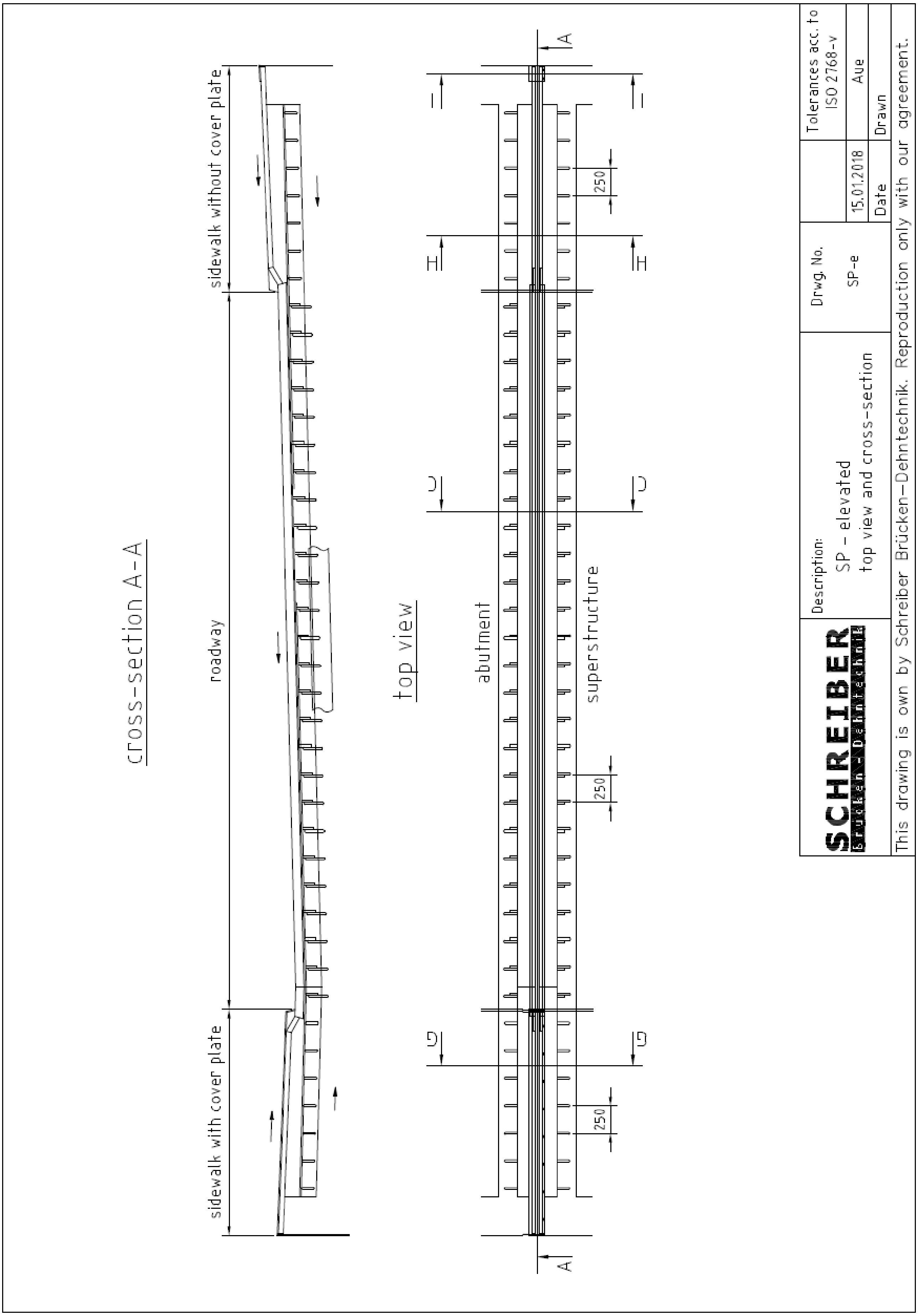
The original document is signed by:

Thomas Rockenschaub
Deputy Managing Director

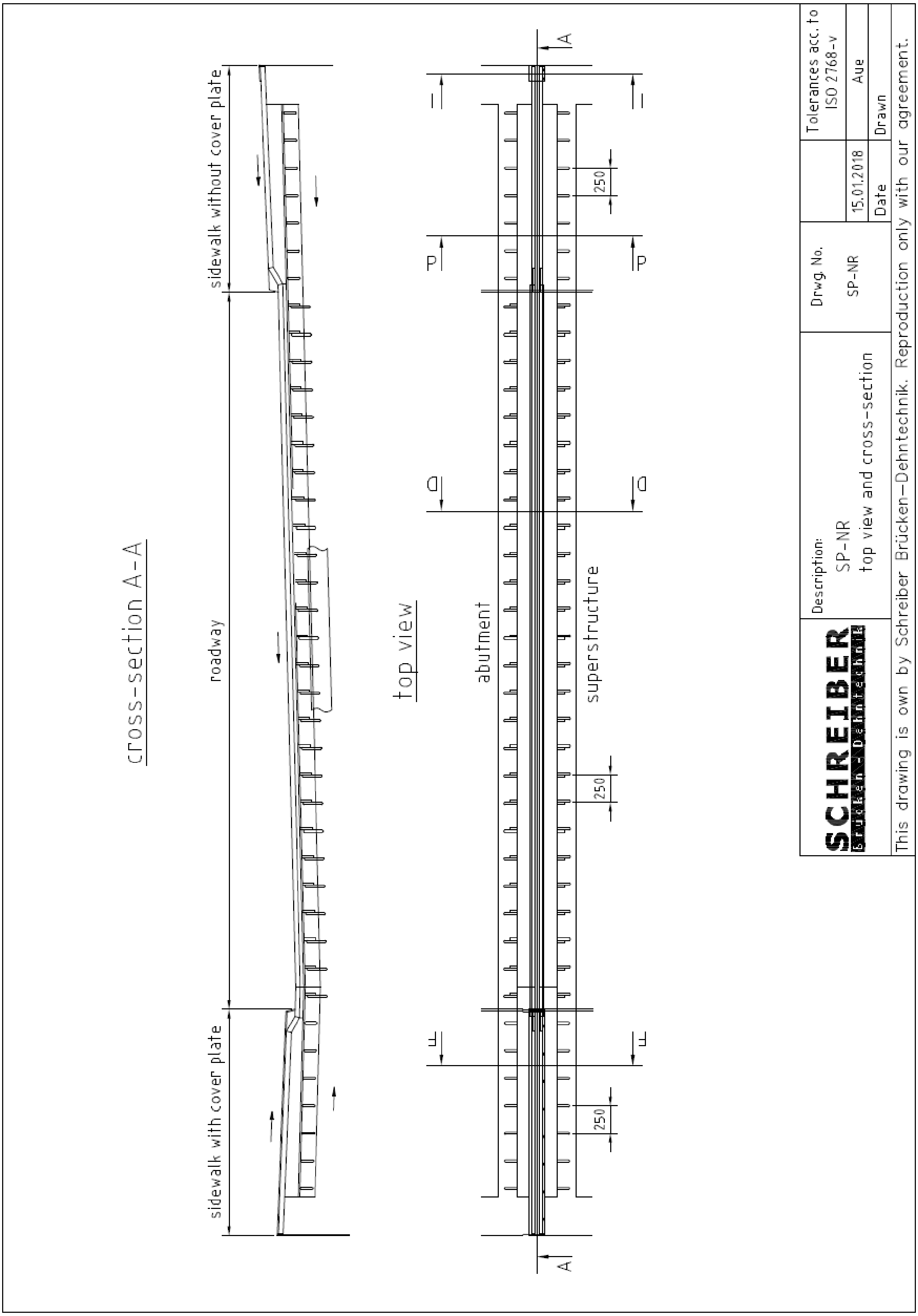
[1] Official Journal of the European Communities N° L 005, 10.1.2001, p. 6-7



Fahrbahnübergangskonstruktion Typ SP – Type SP Standard cross section and top view	Annex 1.1 of European Technical Assessment ETA-20/0621



Fahrbahnübergangskonstruktion Typ SP – Type SP-e Standard cross section and top view	Annex 1.2 of European Technical Assessment ETA-20/0621



Fahrbahnübergangskonstruktion Typ SP – Type SP-NR **Standard cross section and top view**	**Annex 1.3** of European Technical Assessment ETA-20/0621

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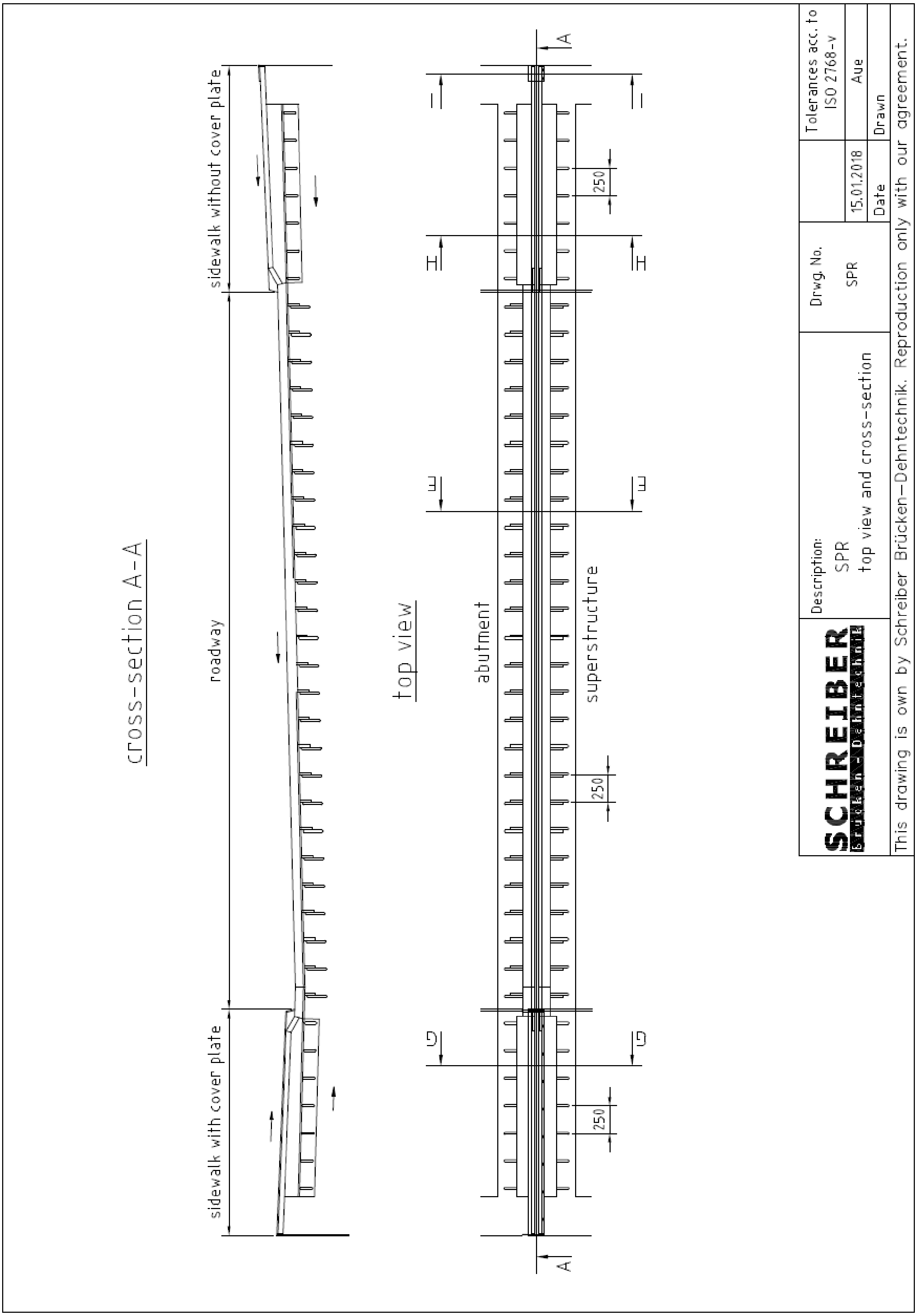

Fahrbahnübergangskonstruktion Typ SP – Type SPR Standard cross section and top view	**Annex 1.4** of European Technical Assessment ETA-20/0621

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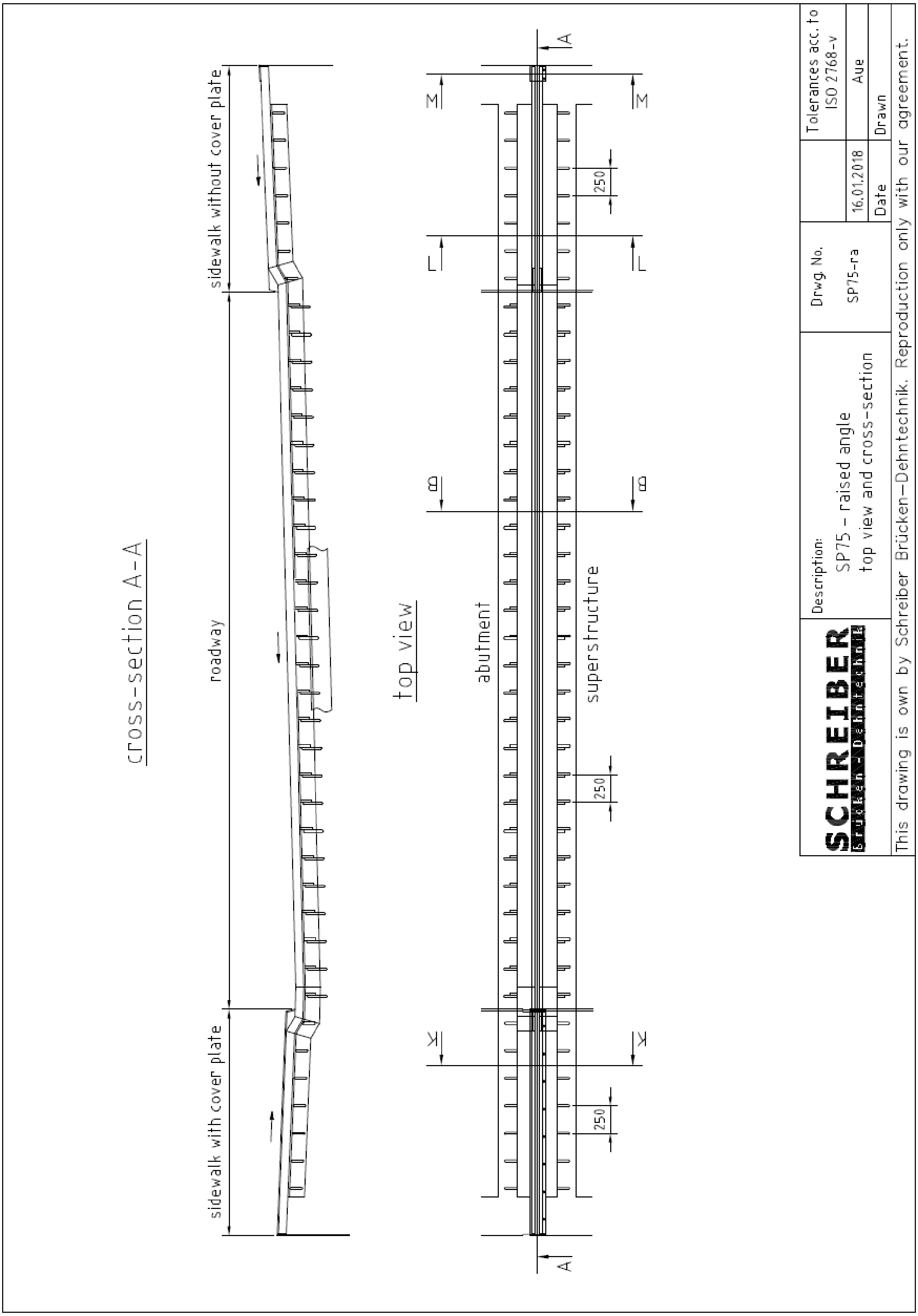
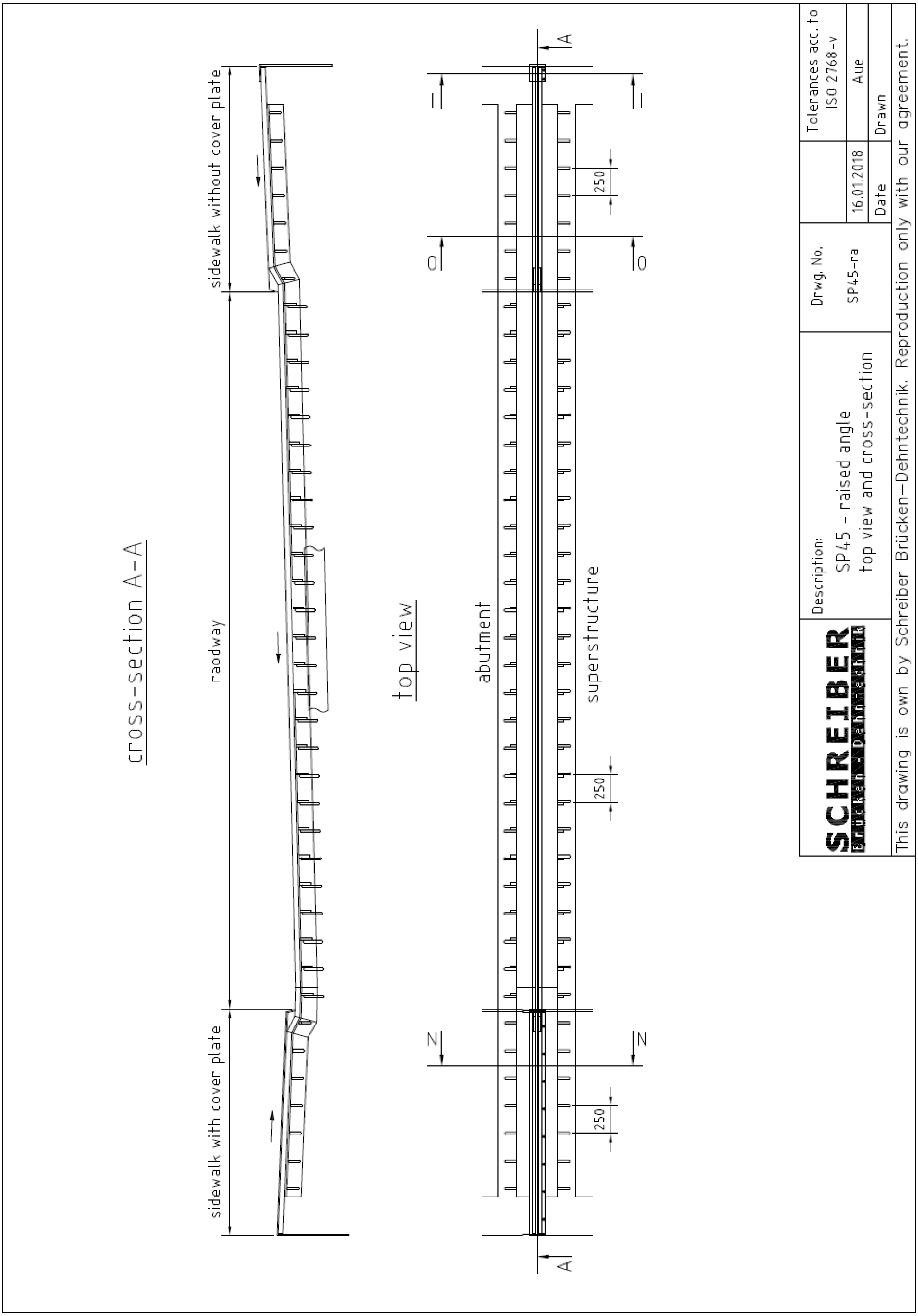
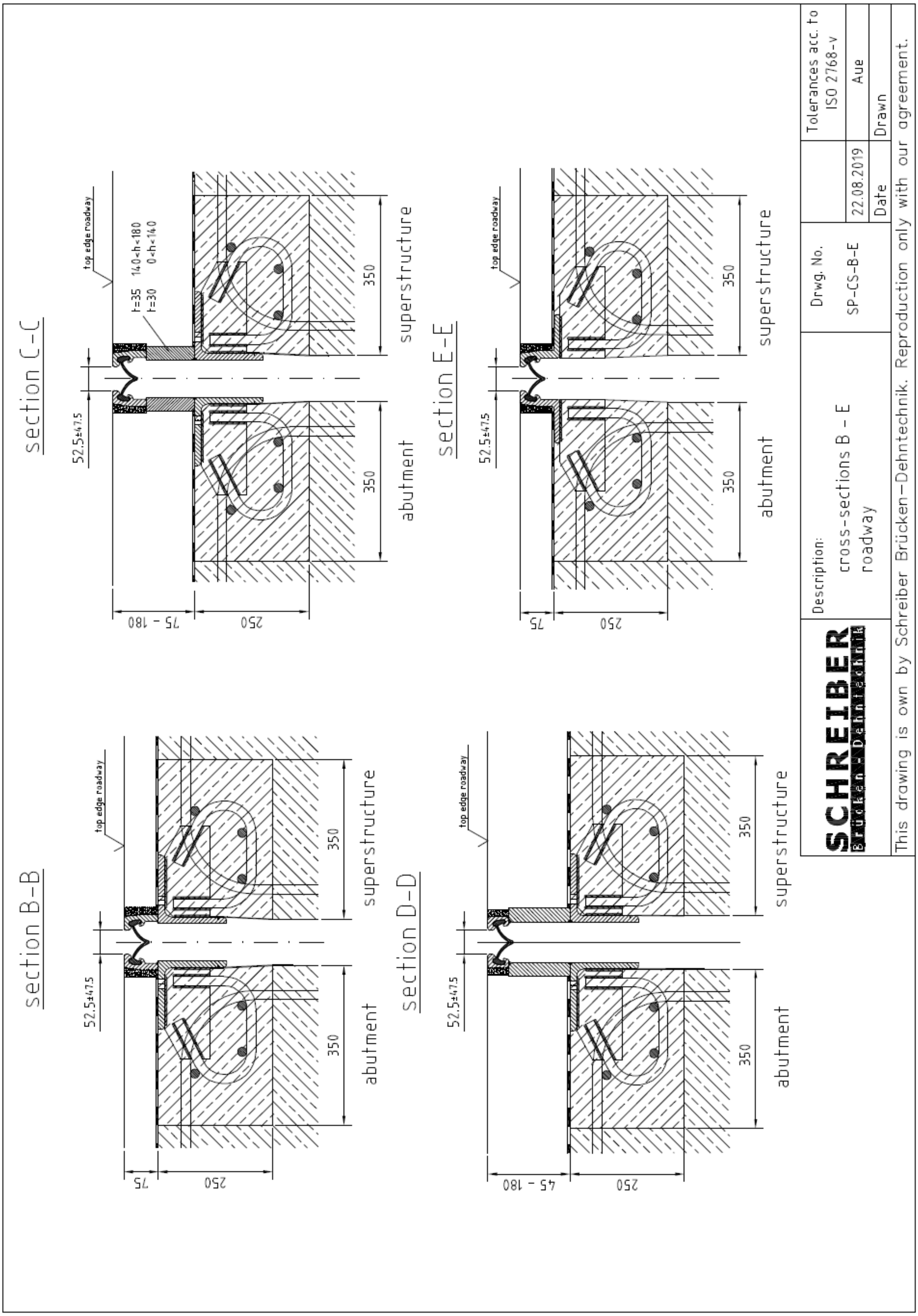


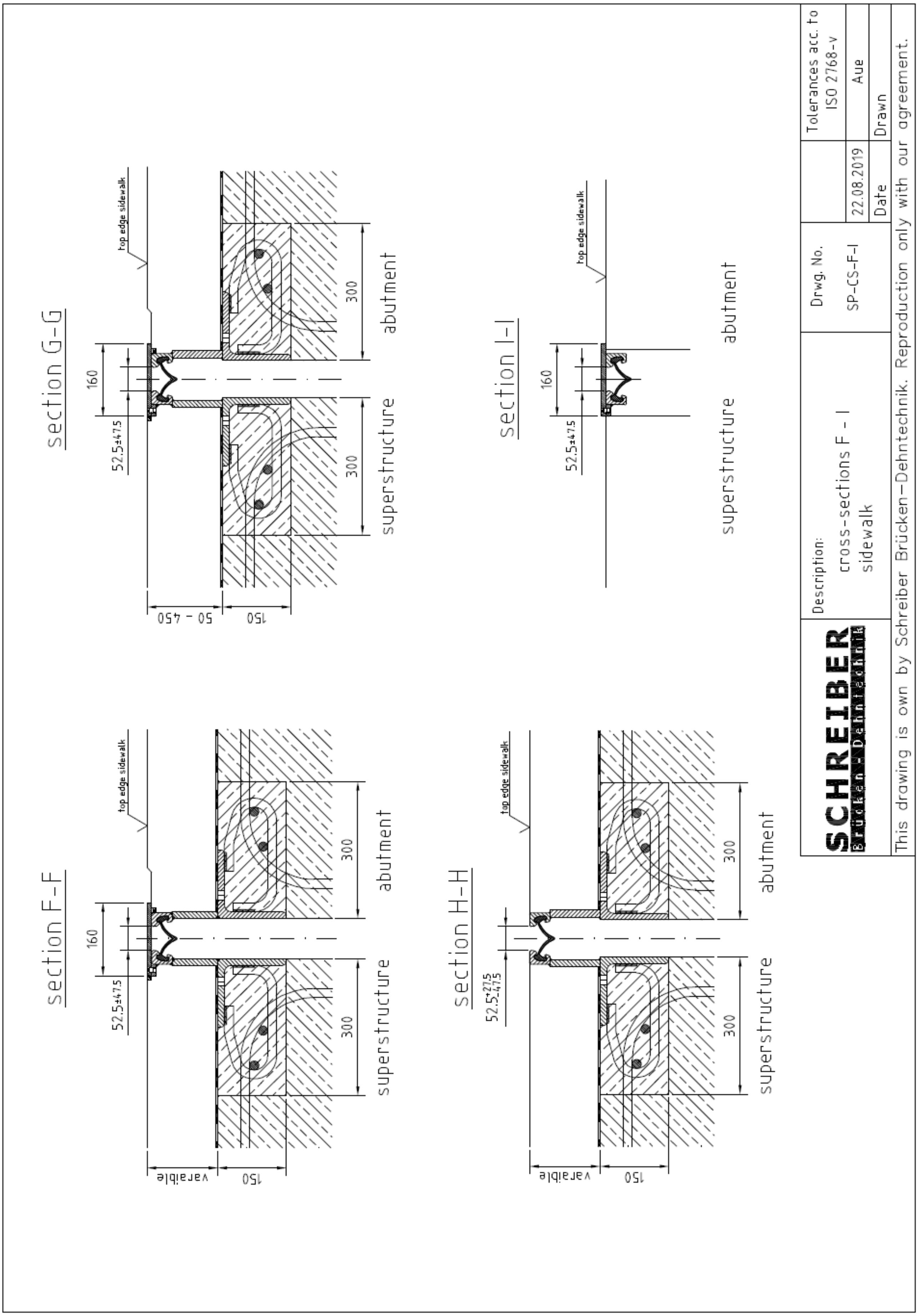
Fahrbahnübergangskonstruktion Typ SP – SP75 raised angle **Standard cross section and top view**	**Annex 1.5** of European Technical Assessment ETA-20/0621



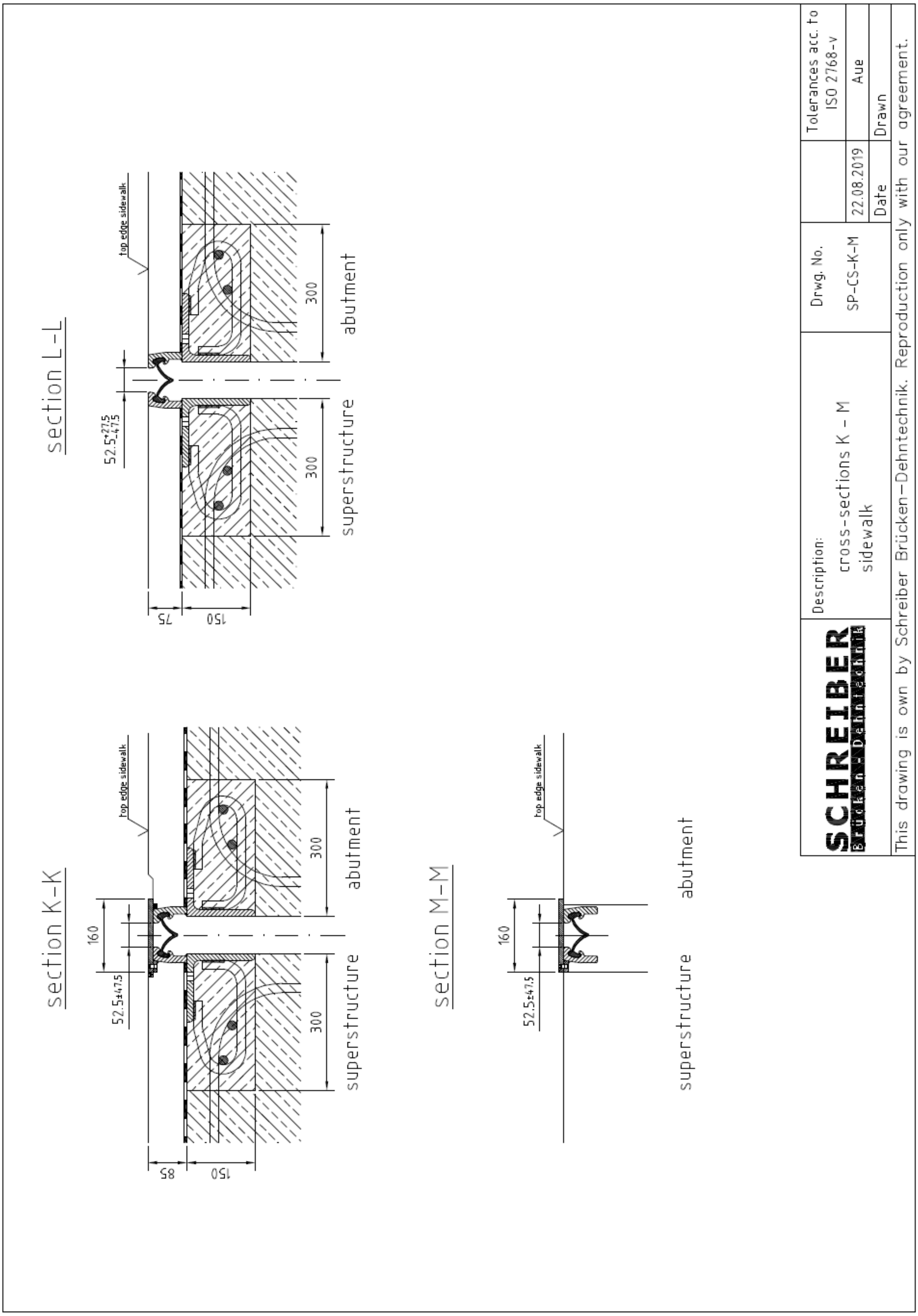
Fahrbahnübergangskonstruktion Typ SP – SP45 raised angle **Standard cross section and top view**	**Annex 1.6** of European Technical Assessment ETA-20/0621



Fahrbahnübergangskonstruktion Typ SP Sections B - E of carriageway	Annex 1.7 of European Technical Assessment ETA-20/0621



Fahrbahnübergangskonstruktion Typ SP Sections F - I of footpath	**Annex 1.8** of European Technical Assessment ETA-20/0621



Fahrbahnübergangskonstruktion Typ SP Sections K - M of footpath	Annex 1.9 of European Technical Assessment ETA-20/0621

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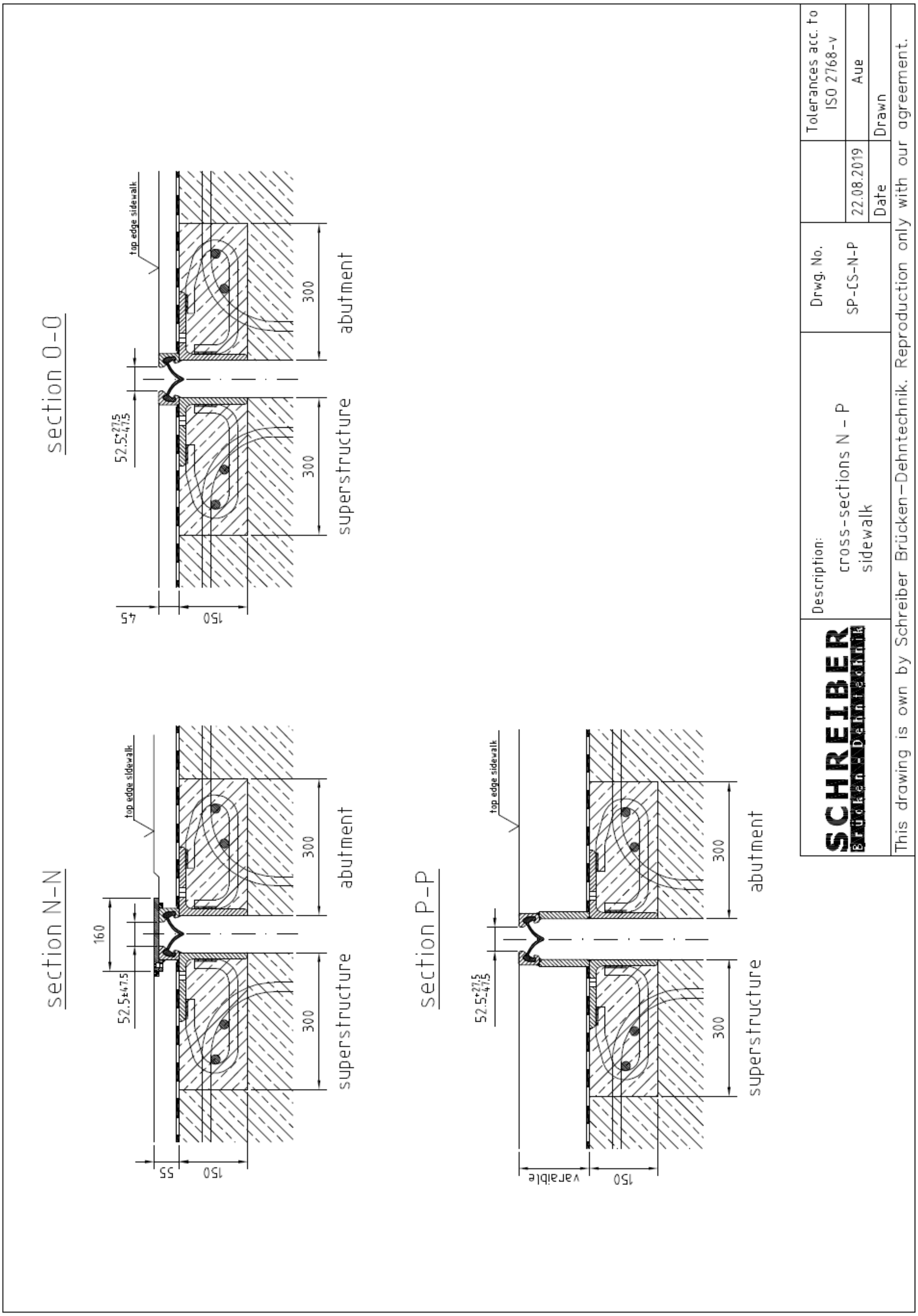
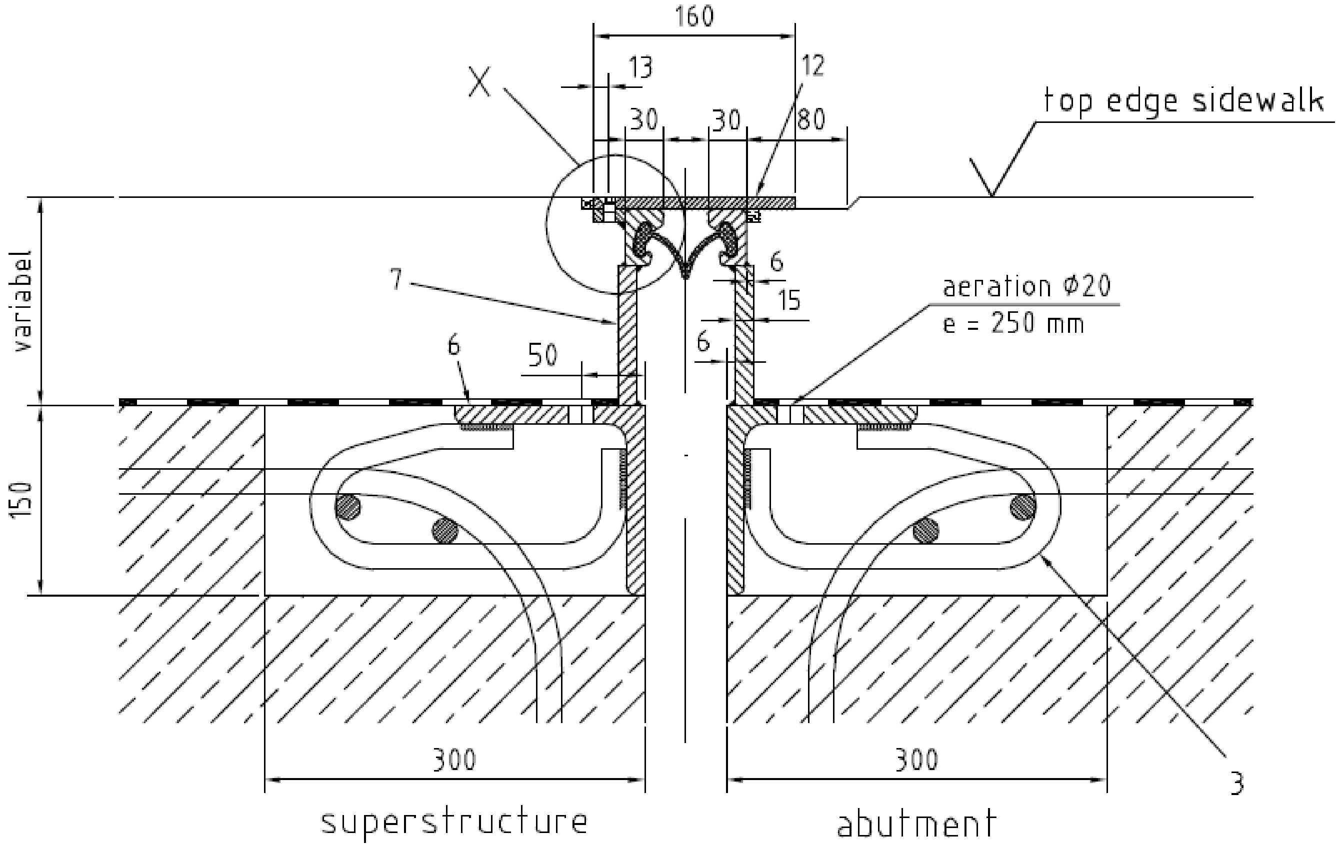
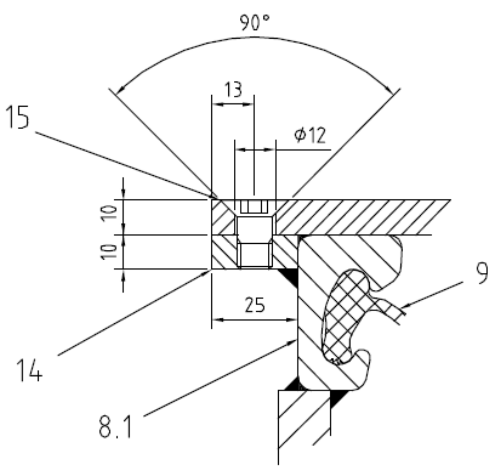


Fahrbahnübergangskonstruktion Typ SP Sections N - P of footpath	Annex 1.10 of European Technical Assessment ETA-20/0621

section of sidewalk



Detail X



No	Designation	Dimension	Material
3	Anchor loop footpath	d=20x520	S235J2+N
6	Angle	150x14xl	S235J2+N
7	Adjustment plate	t=15	S235J2+N
8.1	Edge profile footpath (SP45)	45x30xl	S235J2+N
9	Sealing element SP150	-	EPDM
12	Cover plate	160x10xl	1.4571
14	Flat steel	25x10xl	S235J2+N
15	Countersunk screw	DIN 7991 M10x20	1.4401

10. CONNECTION FORCES
longitudinal slope = 10 %, thickness of road surface = 140 mm

(1) Loads for Ultimate Limit State ULS

R_V =	87,8 kN
R_H =	17,6 kN
F_{ik} =	4,8 kN

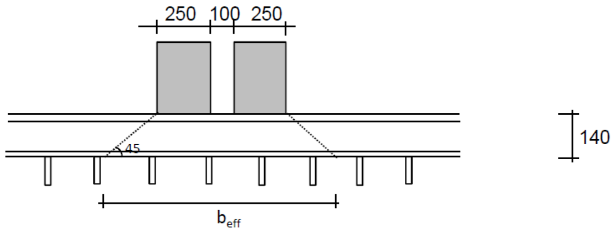
e_h=	**14,4**	cm
e_v=	**28,9**	cm
$e_{v,Fik}$=	**26,7**	cm

(3) Loads for Fatigue Limit state FLS

R_V =	41,0 kN
R_H =	12,6 kN

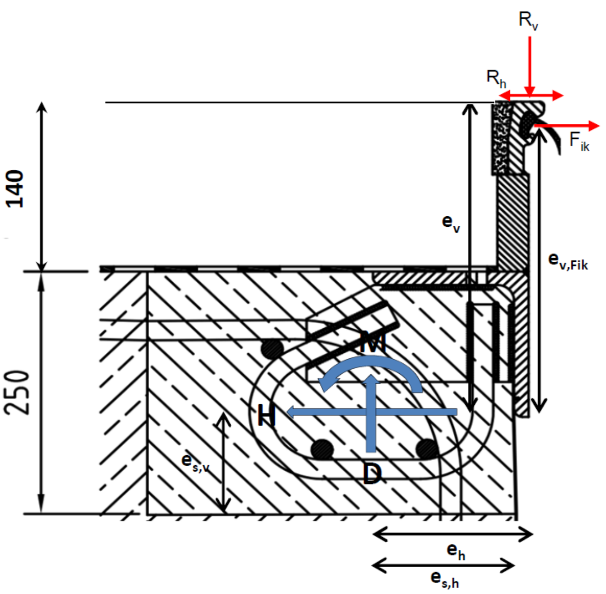
The internal load from the expansion of the sealing profile is not effecting fatigue.

effective width b_{eff}



b_{eff}=	88,0	cm
e_{anchor}=	25,0	cm
n_{eff}=	3,0	
$e_{s,v}$=	**10,1**	cm
$e_{s,h}$=	**13,4**	cm

width of recess A_b [mm]	height of recess A_h [mm]
350	250



Ultimate Limit state - ULS1			Fatigue Limit State - FLS1		
M [kNcm]	D [kN]	H [kN]	ΔM [kNcm]	ΔD [kN]	ΔH [kN]
1900,4	87,8	22,4	954,5	41,0	12,6
883,1	87,8	-17,6	226,3	41,0	-12,6

Note: The two lines, indicating the forces transferred to the anchorage, are taking into account the horizontal loads acting in both directions.

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10. CONNECTION FORCES
longitudinal slope = 10 %, thickness of road surface = 180 mm

(1) Loads for Ultimate Limit State ULS

R_V =	87,8 kN
R_H =	17,6 kN
F_{ik} =	4,8 kN

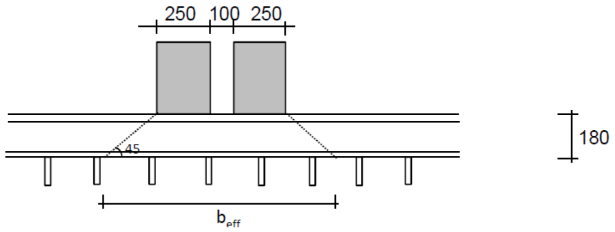
e_h= 14,4 cm
e_v= 32,9 cm
$e_{v,Fik}$= 30,7 cm

(3) Loads for Fatigue Limit state FLS

R_V =	41,0 kN
R_H =	12,6 kN

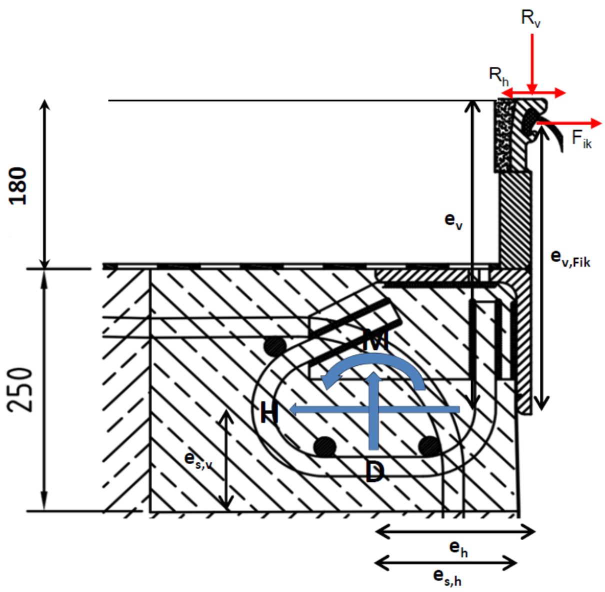
The internal load from the expansion of the sealing profile is not effecting fatigue.

effective width b_{eff}



b_{eff}= 96,0 cm
e_{anchor}= 25,0 cm
n_{eff}= 3,0
$e_{s,v}$= 10,1 cm
$e_{s,h}$= 13,4 cm

width of recess A_b [mm]	height of recess A_h [mm]
350	250



Ultimate Limit state - ULS1			Fatigue Limit State - FLS1		
M [kNcm]	D [kN]	H [kN]	ΔM [kNcm]	ΔD [kN]	ΔH [kN]
1990,0	87,8	22,4	1004,9	41,0	12,6
831,9	87,8	-17,6	175,9	41,0	-12,6

Note: The two lines, indicating the forces transferred to the anchorage, are taking into account the horizontal loads acting in both directions.

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10. CONNECTION FORCES

longitudinal slope = 10 %, thickness of road surface = 100 mm

(1) Loads for Ultimate Limit State ULS

R_V =	87,8 kN
R_H =	17,6 kN
F_{lk} =	4,8 kN

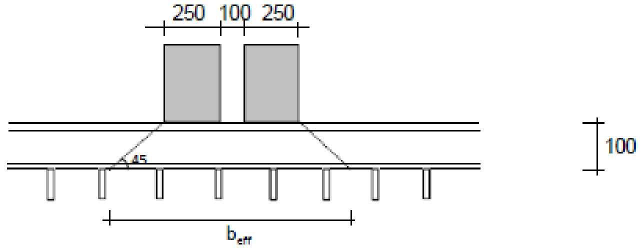
e_h=	14,4	cm
e_v=	24,9	cm
$e_{v,Flk}$=	22,7	cm

(3) Loads for Fatigue Limit state FLS

R_V =	41,0 kN
R_H =	12,6 kN

The internal load from the expansion of the sealing profile is not effecting fatigue.

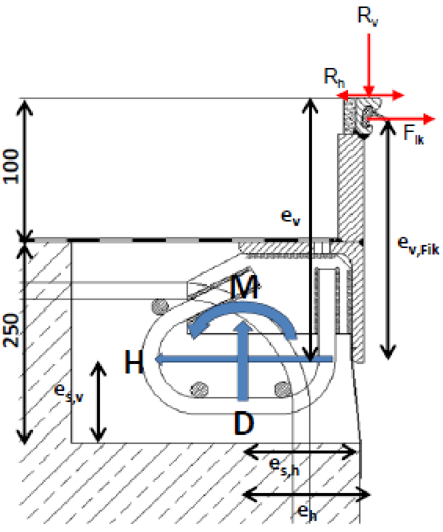
effective width b_{eff}



b_{eff}=	80,0	cm
e_{anchor}=	25,0	cm
n_{eff}=	3,0	
$e_{s,v}$=	10,1	cm
$e_{s,h}$=	13,4	cm

width of recess A_b [mm]	height of recess A_h [mm]
350	250

Ultimate Limit state - ULS1			Fatigue Limit State - FLS1		
M [kNcm]	D [kN]	H [kN]	ΔM [kNcm]	ΔD [kN]	ΔH [kN]
1810,8	87,8	22,4	904,1	41,0	12,6
934,3	87,8	-17,6	276,7	41,0	-12,6



Note: The two lines, indicating the forces transferred to the anchorage, are taking into account the horizontal loads acting in both directions.

10. CONNECTION FORCES

longitudinal slope = 10 %, thickness of road surface = 180 mm

(1) Loads for Ultimate Limit State ULS

R_V =	87,8 kN
R_H =	17,6 kN
F_{ik} =	4,8 kN

e_h= 14,4 cm

e_v= 32,9 cm

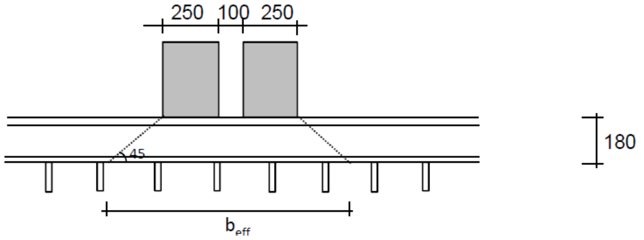
$e_{v,Fik}$= 30,7 cm

(3) Loads for Fatigue Limit state FLS

R_V =	41,0 kN
R_H =	12,6 kN

The internal load from the expansion of the sealing profile is not effecting fatigue.

effective width b_{eff}



b_{eff}= 96,0 cm

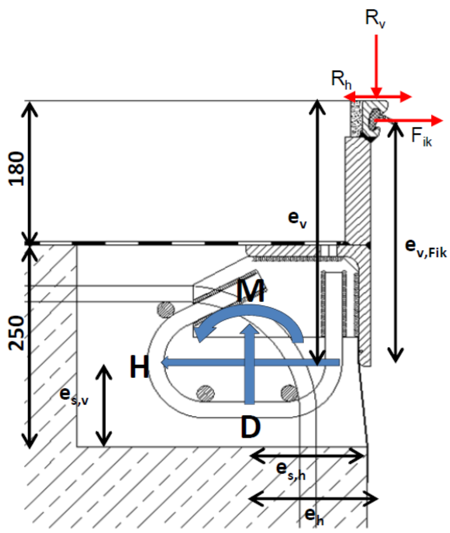
e_{anchor}= 25,0 cm

n_{eff}= 3,0

$e_{s,v}$= 10,1 cm

$e_{s,h}$= 13,4 cm

width of recess A_b [mm]	height of recess A_h [mm]
350	250



Ultimate Limit state - ULS1			Fatigue Limit State - FLS1		
M [kNcm]	D [kN]	H [kN]	ΔM [kNcm]	ΔD [kN]	ΔH [kN]
1990,0	87,8	22,4	1004,9	41,0	12,6
831,9	87,8	-17,6	175,9	41,0	-12,6

Note: The two lines, indicating the forces transferred to the anchorage, are taking into account the horizontal loads acting in both directions.

10. CONNECTION FORCES
longitudinal slope = 10 %, thickness of road surface = 75 mm

(1) Loads for Ultimate Limit State ULS

R_V =	87,8 kN
R_H =	17,6 kN
F_{ik} =	4,8 kN

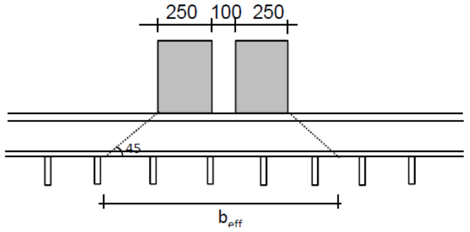
e_h=	14,4	cm
e_v=	22,4	cm
$e_{v,Fik}$=	19,7	cm

(3) Loads for Fatigue Limit state FLS

R_V =	41,0 kN
R_H =	12,6 kN

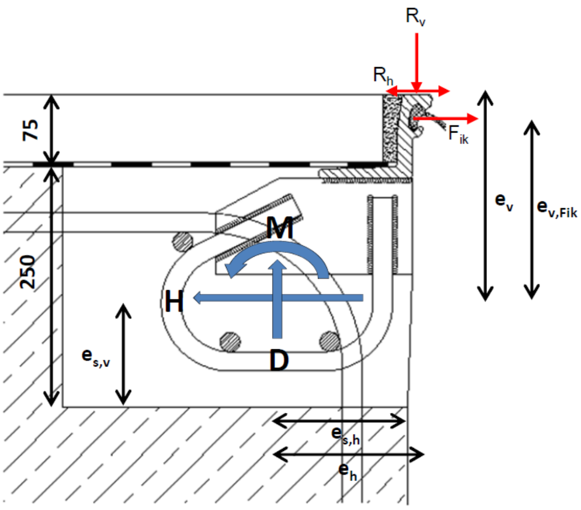
The internal load from the expansion of the sealing profile is not effecting fatigue.

effective width b_{eff}



b_{eff}=	75,0	cm
e_{anchor}=	25,0	cm
n_{eff}=	3,0	
$e_{s,v}$=	10,1	cm
$e_{s,h}$=	13,4	cm

width of recess A_b [mm]	height of recess A_h [mm]
350	250



Ultimate Limit state - ULS1			Fatigue Limit State - FLS1		
M [kNcm]	D [kN]	H [kN]	ΔM [kNcm]	ΔD [kN]	ΔH [kN]
1752,4	87,8	22,4	872,6	41,0	12,6
963,9	87,8	-17,6	308,2	41,0	-12,6

Note: The two lines, indicating the forces transferred to the anchorage, are taking into account the horizontal loads acting in both directions.

Table A.3.1: Material characteristics of the elastomeric sealing element “SP150” made of EPDM

Material characteristic	Technical specification	Declaration
Density	ISO 2781	Laid down in technical documentation deposited with the Technical Assessment Body Österreichisches Institut für Bautechnik (OIB)
Hardness IRHD	ISO 48	
Tensile strength	ISO 37	
Elongation at break	ISO 37	
Tear resistance	ISO 34-1, Method A	
Thermogravimetric characteristics (TGA)	ISO 9924-1	
Rheometric characteristics	ISO 6502	
Compression set	ISO 815-1 (conditions acc. to EAD, Table 5b)	
Brittleness test	ISO 812, Procedure B	

Reference documents

EAD 120109-00-0107 "Nosing expansion joints for road bridges"

EN 206:2013+A1:2016 "Concrete - Specification, performance, production and conformity"
EN 1993-1-4: 2006+A1:2015 „Eurocode 3 - Design of steel structures - Part 1-4: General rules - Supplementary rules for stainless steels"
EN 1993-1-9:2005 + AC:2009 "Eurocode 3: Design of steel structures - Part 1-9: Fatigue"
EN 1993-1-10:2005 + AC:2009 "Eurocode 3: Design of steel structures - Part 1-10: Material tough-ness and through-thickness properties"
EN 1993-2:2006 + AC:2009 "Eurocode 3: Design of steel structures - Part 2: Steel Bridges"
EN 10025-2:2004 "Hot rolled products of structural steels - Part 2: Technical delivery conditions for non-alloy structural steels"
EN 10088-1:2014 "Stainless steels - Part 1: List of stainless steels"

EN ISO 2553:2013 "Welding and allied processes - Symbolic representation on drawings - Welded joints"
EN ISO 9223:2012 "Corrosion of metals and alloys – Corrosivity of atmospheres – Classification, determination and estimation"
EN ISO 12944-1:2017 "Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 1: General introduction"
EN ISO 12944-5:2018 "Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 5: Protective paint systems"

ISO 34-1:2015 "Rubber, vulcanized or thermoplastic - Determination of tear strength - Part 1: Trouser, angle and crescent test pieces"
ISO 37:2017 "Rubber, vulcanized or thermoplastic - Determination of tensile stress-strain properties"
ISO 48-2:2018 "Rubber, vulcanized or thermoplastic - Determination of hardness – Part 2: Hardness between 10 IRHD and 100 IRHD"
ISO 812:2017 "Rubber, vulcanized or thermoplastic - Determination of low-temperature brittleness"
ISO 815-1:2014 "Rubber, vulcanized or thermoplastic - Determination of compression set - Part 1: At ambient or elevated temperatures"
ISO 2781:2018 "Rubber, vulcanized or thermoplastic - Determination of density"
ISO 6502:2016 "Rubber - Guide to the use of curemeters"
ISO 9924-1:2016 "Rubber and rubber products - Determination of the composition of vulcanizates and uncured compounds by thermogravimetry - Part 1: Butadiene, ethylene-propylene copolymer and terpolymer, isobutene-isoprene, isoprene and styrene-butadiene rubbers"