Empa
Materials Science and Technology

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European Technical Assessment

ETA 19/0322
of 18.1.2022

General Part

Technical Assessment Body issuing the ETA:	**Empa**
Trade name of the construction product	HEWAJOINT HJ15 HEWAJOINT HJ30 HEWAJOINT HJ50 HEWAJOINT HJ60 HEWAJOINT HJ75 HEWAJOINT HJ90 HEWAJOINT HJ110 HEWAJOINT HJ120
Product family to which the construction product belongs	Product area code: 12 Road equipment: Circulation fixtures
Manufacturer	Walo Bertschinger AG Fachbereich Bodenbeläge/ HEWAJOINT Giessenstrasse 5, Postfach CH-8953 Dietikon 1
Manufacturing plant(s)	Walo Bertschinger AG Fachbereich Bodenbeläge/ HEWAJOINT Giessenstrasse 5, Postfach CH-8953 Dietikon 1
This European Technical Assessment contains	20 pages including 8 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	EAD 120011-01-0107 FLEXIBLE PLUG EXPANSION JOINTS FOR ROAD BRIDGES WITH FLEXIBLE FILLING BASED ON A SYNTHETIC POLYMER AS BINDER

1 Technical description of the product

This European Technical Assessment applies for the flexible plug expansion joint (FPEJ) system **HEWAJOINT HJ15 … HJ120** with different dimensions (Table 1) to accommodate annual horizontal bridge movements between 15 and 120 mm.

Joint system	Annual movement absorption [mm]	With stabilizing elements	Joint thickness* [mm]	Standard joint gap [mm]	Joint width [mm]	Thickness of bridging plate [mm]	Width of bridging plate [mm]	Width of L-bracket [mm]	Height of L-bracket [mm]
HJ15	15	no	40	20	280 (+10/-5)	5	90	70	25
HJ30	30	no	50	25	330 (+20/-10)	5	130	70	35
HJ50	50	yes	60	32	400 (+33/-17)	5	160	100	50
HJ60	60	yes	60	35	450 (+40/-20)	8	190	100	50
HJ75	75	yes	70	40	600 (+50/-25)	8	220	100	50
HJ90	90	yes	70	45	700 (+50/-30)	10	250	100	50
HJ110	110	yes	70	50	800 (+74/-36)	10	290	100	50
HJ120	120	yes	70	55	900 (+80/-40)	10	310	100	50

*without substructure

Table 1: Characteristic dimensions of the different variations of the flexible expansion joint system HEWAJOINT

1.1 Description of the system

HEWAJOINT systems according to EAD120011-01-0107 are constructed directly on site using prefabricated metal components and a polymer filling material made of a specially formulated flexible polymer material (HEWA-Flex) based on synthetic polymer (2-component polyurea mixture). The essential elements of HEWAJOINT are shown in Figure 1 and Figure 2. For annual movement capacities up to 30 mm, HEWAJOINT is designed without stabilizing elements (Figure 1). For annual movement capacities higher than 30 mm, HEWAJOINT contains stabilizing elements according to Figure 2.

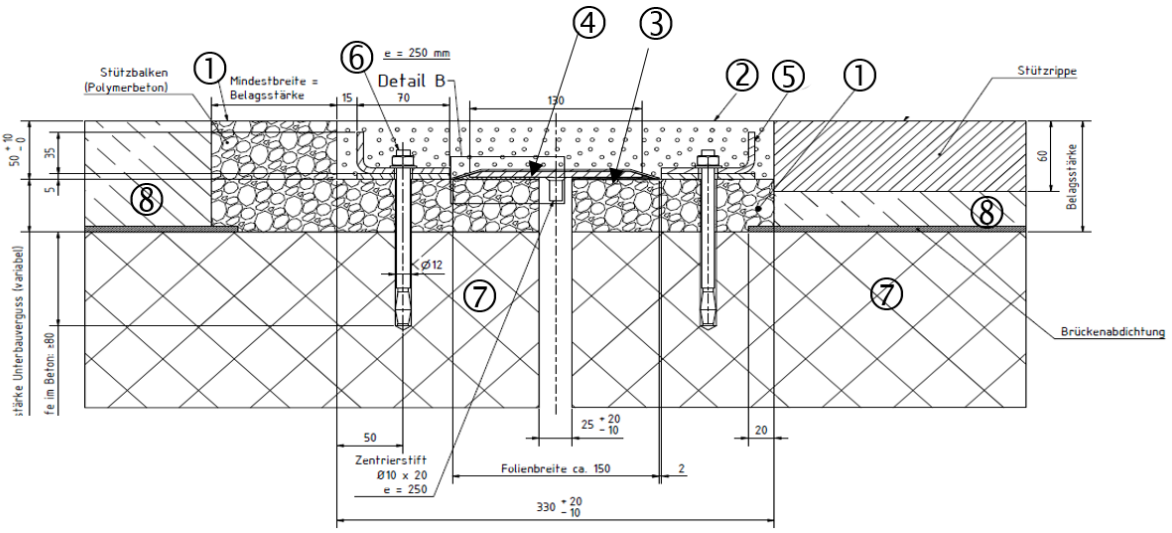


Figure 1: Standard cross section of the FPEJ system HEWA JOINT HJ30 (representative for the systems without stabilizing elements)

Key:

① Polymer concrete as beam and/or substructure (not part of the kit)
② Joint filling mixture HEWA-Flex (based on synthetic polymer)
Surface dressing not shown in Figure 1: use according to installation instructions
③ Bridging plate
④ Debonding strip
⑤ L-Brackets
⑥ Anchorage system
⑦ Bridge deck
⑧ Adjacent pavement

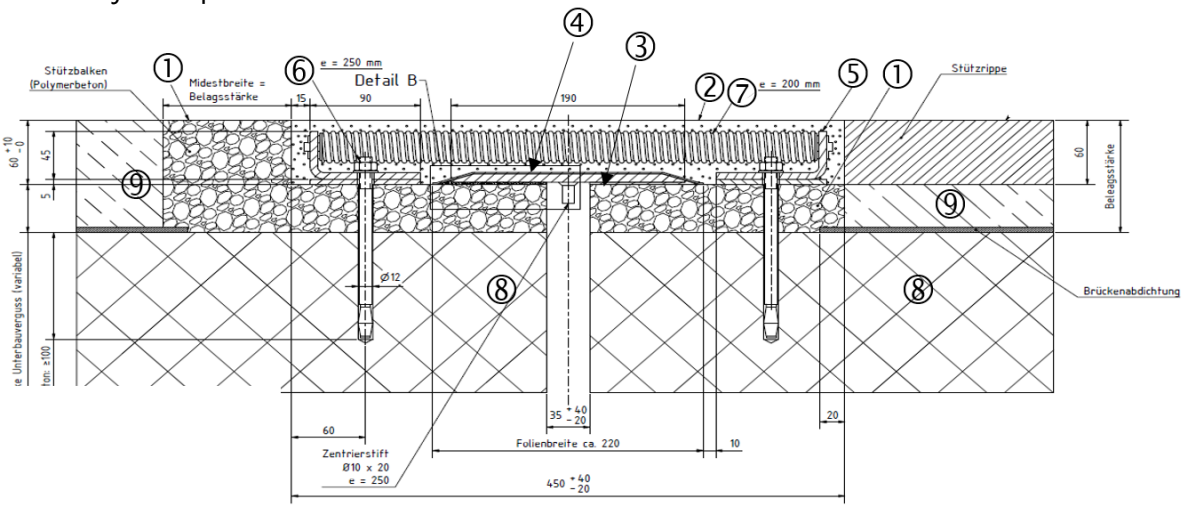


Figure 2: Standard cross section of the FPEJ system HEWA JOINT HJ60 (representative for the systems with stabilizing elements)

Key:

① Polymer concrete as beam and/or substructure (not part of the kit)

② Joint filling mixture HEWA-Flex (based on synthetic polymer)
Surface dressing not shown in Figure 1: use according to installation instructions

③ Bridging Plate

④ Debonding strip

⑤ L-Brackets

⑥ Anchorage system

⑦ Stabilizing element

⑧ Bridge deck

⑨ Adjacent pavement

1.2 Description of the components

1.2.1 Joint filling mixture

The joint filling mixture is a specially formulated flexible polymer material (HEWA-Flex) based on a synthetic polymer (2-component polyurea mixture) without mineral aggregates. Composition and characteristics are confidential with the exception of the information given in this ETA.

1.2.2 Bridging plate

The bridging plate is made of steel grade S235JR (minimum steel grade) with dimensions depending on the maximum bridge gap as given in Table 1. At least two fixing bolts in the middle of the plate guarantee that the bridging plate always fully covers the bridge gap at maximum extension of the bridge in addition to a minimum plate width of 210% of the maximum bridge gap (at the lowest service temperature).

1.2.3 L-Brackets

The minimum steel grade is S235JR+N with dimension as defined in the technical documentation.

1.2.4 Anchorage system

Anchor bolts are made of stainless steel A4 according EN 10088-1.

1.2.5 Debonding strip

The debonding strip consists of EPEDM with 1.5 mm thickness.

1.2.6 Stabilizing elements

The stabilizing element consists of an inner part (steel grade S235 JRC +C), which moves horizontally in a metal sleeve rod (steel grade E235+C). The stabilizing elements are enclosed in a PVC tube (smooth inside and ribbed outside), so that they are not exposed to the filling mixture after the joint installation. Corrosion protection is not needed, as they are fully embedded in the watertight polymer joint material.

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

The different variations of the FPEJ System HEWAJOINT are intended for the following uses:

User categories: Road vehicles, cyclists and pedestrians.

The assessment has been only carried out for the use of road vehicles, which corresponds to the most severe case. This assessment is assumed to be valid as well for FPEJ systems intended for pedestrians and cyclists.

Operating temperature: -20° C up to +45° C.

This operating temperature range has been used as base for the assessment of the performance of the joint systems and the material characteristics of the components of the kit (joint filling mixture, metal elements, etc.).

Working life: 10 Years

The working life of the kit is based on Nobs = 0,5 million/year (see EN 1991-2, Table 4.5 and Annex D Clause D.2.2.3).

These provisions are based upon the assessment of mechanical resistance, resistance to fatigue and durability aspects according to Clause 2.2.2 and Clause 2.2.7 of EAD 120011-01-0107. However, the stated working life of 10 years cannot be interpreted as a guarantee by the producer or the Technical Assessment Body as the lifetime is dependent of many parameters like climatic conditions, traffic behavior adjacent pavement and others. The indicated working life is based upon the current state of the art and the available knowledge and experience.

The **HEWAJOINT** FPEJ systems can be used in roads with a maximum slope up to 4% in traffic direction. Under normal conditions, the longitudinal axis of the bridge expansion joint is perpendicular to the traffic direction. For other cases, the manufacturer defines a maximum skew angle of 30° between the longitudinal axis of the joint and the axis perpendicular to the traffic direction. The movement aids are always placed in parallel to the traffic direction. The adjacent pavement type can be made of concrete or mastic asphalt. In case of rolled asphalt pavements, a transition piece of polymeric concrete is recommended.

The flexible plug expansion joint systems **HEWAJOINT** don't contain replaceable components.

If the flexible plug expansion joint systems **HEWAJOINT** are damaged by movements outside of the specified parameters (e.g. seismic activities), the flexible expansion joints have to be repaired or replaced.

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

No	Essential characteristic	Assessment method (EAD chapter)	Performance
Basic Works Requirement 1: Mechanical resistance and stability			
1	Mechanical resistance	2.2.1	Mechanical resistance and stability is given for the product according to the geometry depicted in Annex 1 and Table 3 of this ETA. Load model: LM1 Adjustment factor: α_{Q1} = 1.0 Partial factor: γ_{Q1} = 1.35 Combination factors Ψ_0: according Table 3
2	Resistance to fatigue	2.2.2	Resistance to fatigue is given for the product according to the geometry depicted in Annex 1 and the following test conditions: Frequency: 1 Hz Amplitude: 1 mm
3	Movement capacity	2.2.3	No cracking or debonding of the joint filling mixture at the nominal movement capacity
4	Resistance to wear	2.2.4	No cracking or debonding of the joint filling mixture and no signs of wear
5	Water tightness	2.2.5	Watertight
6	Bond strength to support	2.2.6	Bond strength: 1.8 N/mm^2 Failure mode: 100% adhesive failure between primer and joint filling mixture
7	Durability aspects	2.2.7	
	Resistance against chemicals (petrol, diesel, de-icing salt, alkali)	2.2.7.1	Retained functionality of the joint filling material after exposure
	Accelerated ageing by heat	2.2.7.2	
	Ageing resulting from UV radiation and weathering	2.2.7.3	
	Ageing resulting from ozone	2.2.7.4	
	Ageing resulting from freeze/thaw with de-icing salts	2.2.7.5	
	Corrosion	2.2.7.6	Bridging plate: Minimum steel grade S235JR, hot-dip galvanized according EN ISO 1461 complying with durability class H L-Brackets and anchoring system: not relevant, fully embedded in the polymeric joint material

No	Essential characteristic	Assessment method (EAD chapter)	Performance
Basic Works Requirement 2: Safety in case of fire			
8	Reaction to fire	2.2.8	Class E
Basic Works Requirement 4: Safety and accessibility in use			
9	Level differences in the running surface under unloaded conditions	2.2.9.1	Level differences < 2 mm Steps ≤ 1 mm
	Level differences in the running surface under loaded conditions	2.2.9.2	Rutting < 0.2 mm
10	Skid resistance	2.2.10	Carriageways: 78 PTV Value Footpaths: 87 PTV Value
11	Wheel tracking for operating temperature +60° C	2.2.11	Not applicable for upper service temperature of +45°C

Table 2: Performance of the HEWAJOINT FPEJ systems

3.1 Mechanical resistance and fatigue

According to EAD clause 2.2.1, the mechanical resistance in the ULS and SLS conditions of the kit depend mainly on the bridging plate behaviour in the usual range of temperature and the mechanical resistance of the filling material is not considered relevant. The assessment was done by means of calculation for the bridging plate.

Following conditions have been applied for the assessment:

- Minimum operating temperature used: -20 °C
- Maximum operating temperature used: +45 °C
- Bridging plate: Minimum steel grade S235JR, hot-dip galvanized according EN ISO 1461 complying with durability class H.;
- L-brackets: Steel grade S235
- Stabilizing elements : Steel grade S235
- Anchor bolts: Stainless steel A4 and 8.8 galvanized
- Load model: LM1
- Adjustment factor: α_{Q1} = 1.0
- Partial factor: γ_{Q1} = 1.35
- Combination factors Ψ_0:

For FLS: Working life category 1; N_{obs} = 0.5 Mio./year

C_{ULS}	Design situation	Ψ_{0T}	Ψ_{0d}	Ψ_{0lk}	Ψ_{0tk}
1	Reduced opening position with maximum traffic loads (60% joint gap and 100% Q_{1k})	1.0	0.6	0.0	0.5
2	Maximum opening position with reduced traffic loads (100% joint gap and 70% Q_{1k})	0.7	1.0	0.5	0.5

Table 3: Combination factors used for the calculation

As a result of the evaluation of the mechanical resistance (in ULS, SLS and FLS conditions), standard bridging plate thickness (according to standard cross-section of HEWA JOINT systems) and its corresponding max. permissible joint gap are listed in Table 4.

HEWAJOINT system	Bridging plate thickness according to standard cross-section [mm]	Joint thickness according to standard cross-section [mm]	Max. permissible bridge joint gap according to the static calculation [mm]
HJ15	5	40	51.6
HJ30	5	50	53.4
HJ50	5	60	55.2
HJ60	8	60	107.4
HJ75	8	70	116.1
HJ90	10	70	145.4
HJ110	10	70	145.4
HJ120	10	70	145.4

Table 4: Standard bridging plate thickness and its corresponding maximum permissible joint gap according to the static calculation

Overrolling test according EAD:

Bridging plate: no permanent deformation

Joint filling mixture:

- Permanent deformation (rut): < 1 mm after 2000 (according to the EAD) load cycles
- No cracking or debonding of the filling mixture (minor cracking < 1 mm width and < 5 mm depth allowed)

3.2 Movement capacity

3.2.1 Slow occurring movements

Movement capacity test according to EAD Chapter 2.2.3 Method a (under slow occurring movement)

Bridging plate: no permanent deformation

Joint filling mixture:

- No permanent deformation at the end of the test
- No cracking or debonding of the filling mixture at -20°C and +45°C (minor cracking < 1 mm width and < 5 mm depth allowed)

Reaction forces resulting from fast occurring movements due to overrolling traffic are less than those resulting from slow occurring movements. The maximum reaction forces resulting from slow occurring movements at maximum expansion at -20°C are given in Table 5 and the resulting maximum deformations in Table 6.

HEWAJOINT system	Maximum contraction forces (joint opening) @-20°C [kN/m]	Maximum compression forces (joint closing) @+45°C [kN/m]
HJ15, HJ30	47.2	13.6
HJ50, HJ60	69.6	12.4
HJ75, HJ90, HJ110, HJ120	62.2	9.6

Table 5: Maximum reaction forces during contraction and compression

HEWAJOINT system	Maximum deformation: dimple (joint opening) @-20°C [mm]	Maximum deformation: elevation (joint closing) @+45°C [mm]
HJ15, HJ30	4	7
HJ50, HJ60	6	8
HJ75, HJ90, HJ110, HJ120	5	8

Table 6: Maximum deformation during contraction and compression

3.2.2 Fast occurring movements

Movement capacity test according EAD Chapter 2.2.3, Method b (under fast occurring movement)

Test temperature: -20°C

Amplitude: 1 mm

Frequency: 1 Hz

Bridging plate: no permanent deformation

Joint filling mixture:

- No permanent deformation
- No cracking or debonding of the filling mixture (minor cracking < 1 mm width and < 5 mm depth allowed)

3.3 Watertightness

After the movement capacity test under fast and slow occurring movement, all specimens were watertight.

3.4 Durability

3.4.1 Resistance against chemicals (petrol, diesel, de-icing salt, alkali)

No permanent damage after exposure to petrol, diesel or alkali.

3.4.2 Accelerated ageing by heat

Inspection of products in use showed no damage in the form of cracking, flank detachment or blistering of the joint surfaces.

3.4.3 Ageing resulting from UV radiation and weathering

Exposure conditions "M" have been used for laboratory assessment. However, inspection of products in use showed no damage in the form of cracking, flank detachment or blistering of the joint surfaces.

3.4.4 Ageing resulting from ozone

No change in appearance and no microcracks were observed.

3.4.5 Ageing resulting from freeze/thaw with de-icing salts

Change of characteristics after multiple freeze/thaw cycles with de-icing salts were within the defined tolerances or better.

3.4.6 Corrosion

The bridging plate consists of steel grade S235JR, which is hot-dip galvanized according EN ISO 1461, and complies with durability class H (EN ISO 14713-1) for the atmospheric corrosivity categories C4 or C5 (EN ISO 9223). L-brackets and other metal parts of the system are fully covered by the joint filling material and thus protected from possible corrosive atmosphere.

In the unloaded condition level difference in the running surface < 2mm and steps < 1mm were measured before testing. In the loaded condition with the overrolling test according to EAD Annex B, deformations have been determined after 2000 and 8000 load cycles (Table 7). The bridging plate didn't show any deformation or defect at the end of the 8000 load cycles.

Characteristics	Rut depth [mm]
after 2000 load cycles	<0.2 mm
after 8000 load cycles	<0.3 mm

Table 7: Permanent deformation of the flexible plug joint

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

In accordance with EAD the applicable European legal act is: Decision 2001/19/EC (EU).

The system to be applied is: 1

In addition, with regard to reaction to fire of the components/materials for products covered by this EAD the applicable European legal act is: Commission Delegated Regulation (EU) No 2016/364.

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 with the Technical Assessment Body Empa.

Installation of the flexible plug expansion joint systems **HEWAJOINT** should be carried out according to the ETA holder's specific application instructions by appropriately qualified staff and under the supervision of the technical responsible of the site.

Changes to the product or its application, which might affect the performance of the flexible plug expansion joint system **HEWAJOINT** should be notified to Empa before the changes are introduced. Empa will decide whether such changes affect the ETA and if so whether further assessment or alterations to the ETA might be necessary.

Issued in Dübendorf (CH) on 18.01.2022

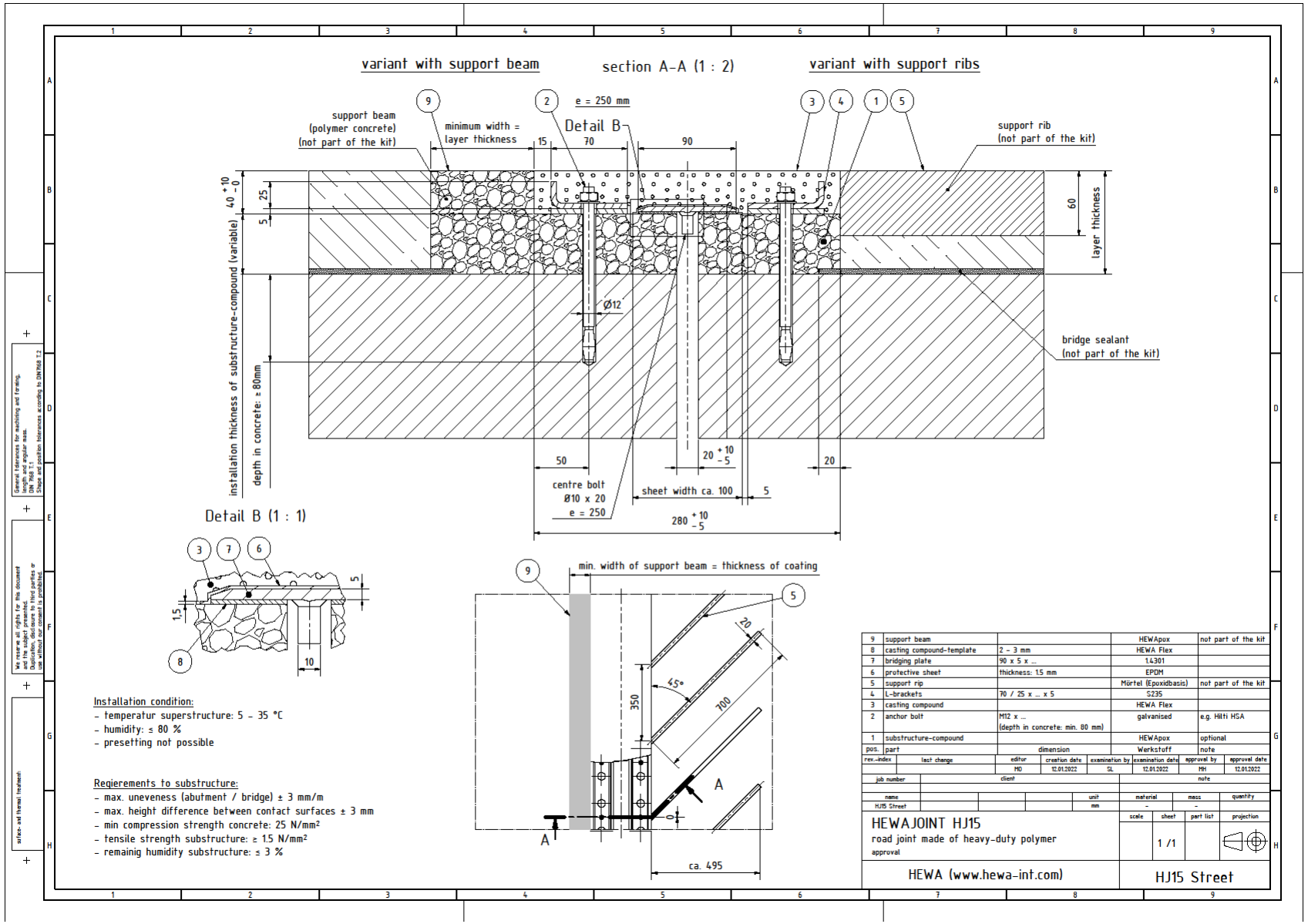
by

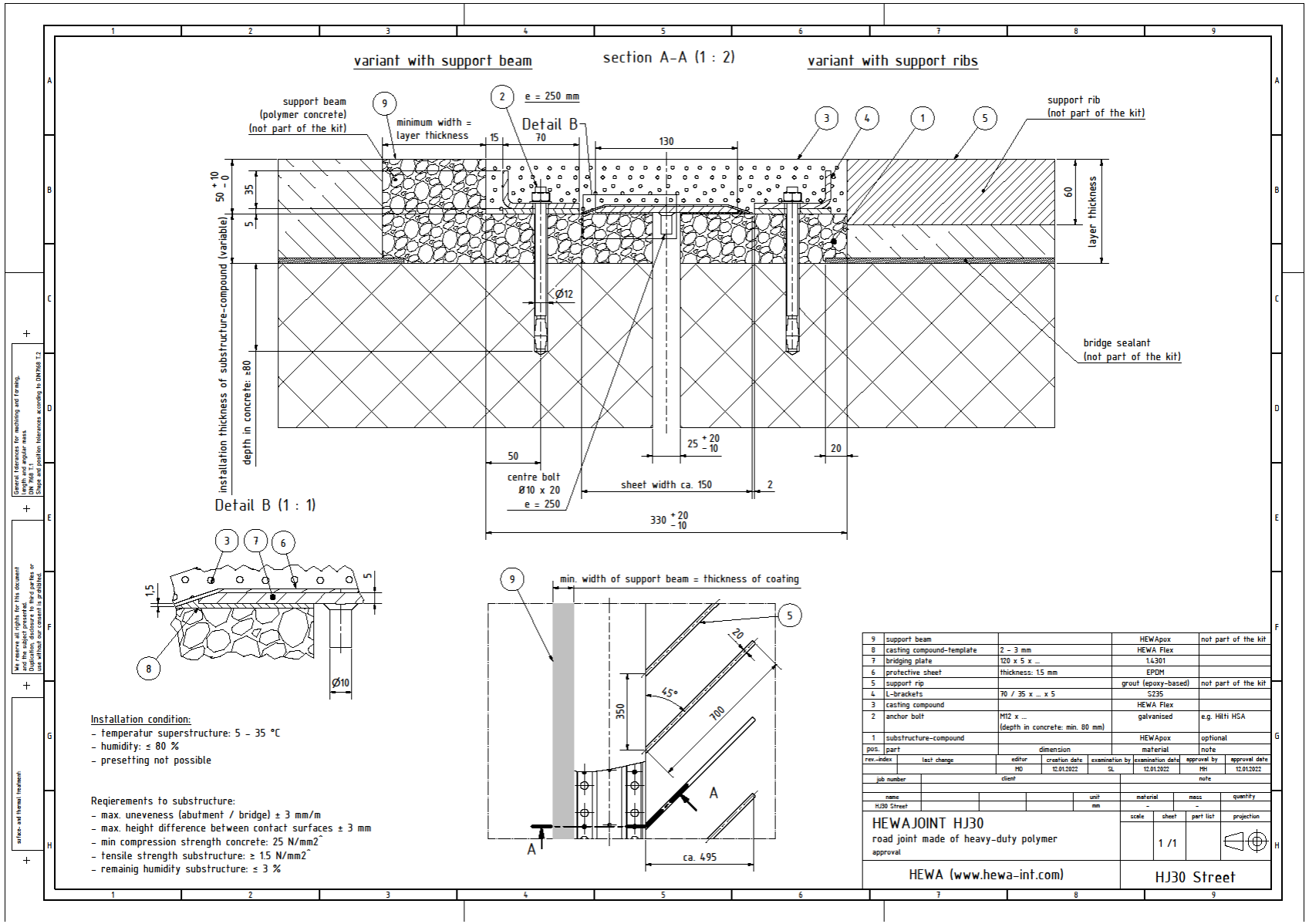
Dr. G. Spescha

Head of Technical Assessment Body for Construction Products /Empa

Annexes

Annex 1	System drawing of Hewajoint HJ15
Annex 2	System drawing of Hewajoint HJ30
Annex 3	System drawing of Hewajoint HJ50
Annex 4	System drawing of Hewajoint HJ60
Annex 5	System drawing of Hewajoint HJ75
Annex 6	System drawing of Hewajoint HJ90
Annex 7	System drawing of Hewajoint HJ110
Annex 8	System drawing of Hewajoint HJ120


variant with support beam
section A-A (1 : 2)
variant with support ribs
support beam
(polymer concrete)
(not part of the kit)
minimum width =
layer thickness
e = 250 mm
Detail B
support rib
(not part of the kit)
layer thickness
bridge sealant
(not part of the kit)
installation thickness of substructure-compound (variable)
depth in concrete: ≥ 80mm
centre bolt
Ø10 x 20
e = 250
sheet width ca. 100
Detail B (1 : 1)
min. width of support beam = thickness of coating
ca. 495
Installation condition:
- temperatur superstructure: 5 - 35 °C
- humidity: ≤ 80 %
- presetting not possible
Regierements to substructure:
- max. uneveness (abutment / bridge) ± 3 mm/m
- max. height difference between contact surfaces ± 3 mm
- min compression strength concrete: 25 N/mm²
- tensile strength substructure: ≥ 1.5 N/mm²
- remainig humidity substructure: ≤ 3 %
HEWAJOINT HJ15
road joint made of heavy-duty polymer
HEWA (www.hewa-int.com)
HJ15 Street



pos.	part	dimension	material	note
9	support beam		HEWApox	not part of the kit
8	casting compound-template	2 - 3 mm	HEWA Flex	
7	bridging plate	120 x 5 x ...	1.4301	
6	protective sheet	thickness: 1.5 mm	EPDM	
5	support rip		grout (epoxy-based)	not part of the kit
4	L-brackets	70 / 35 x ... x 5	S235	
3	casting compound		HEWA Flex	
2	anchor bolt	M12 x ... (depth in concrete: min. 80 mm)	galvanised	e.g. Hilti HSA
1	substructure-compound		HEWApox	optional

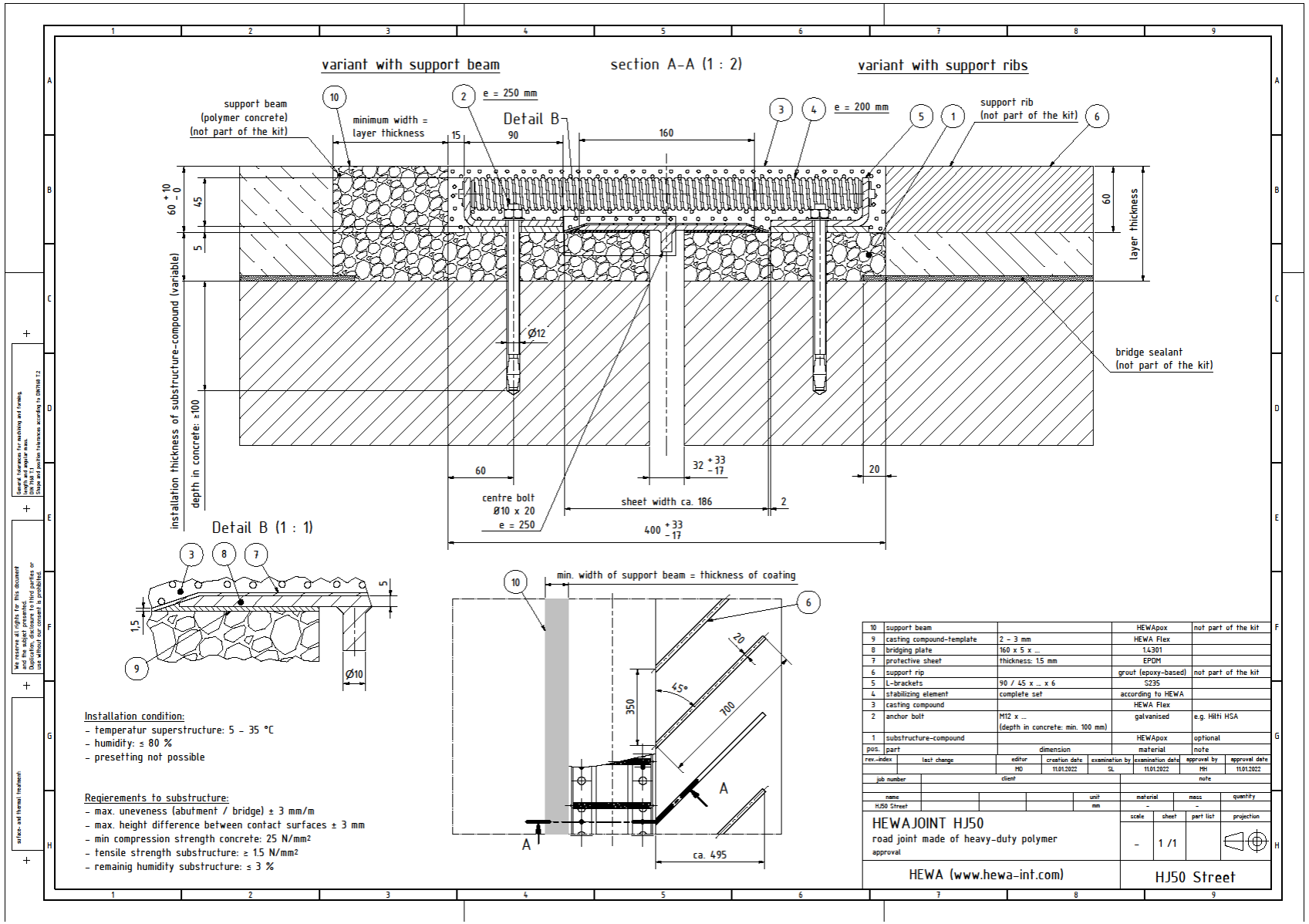
rev.-index	last change	editor	creation date	examination by	examination date	approval by	approval date
		MO	12.01.2022	SL	12.01.2022	MH	12.01.2022

job number	client	note

name	unit	material	mass	quantity
HJ30 Street	mm	-	-	

scale	sheet	part list	projection
	1 /1		

approval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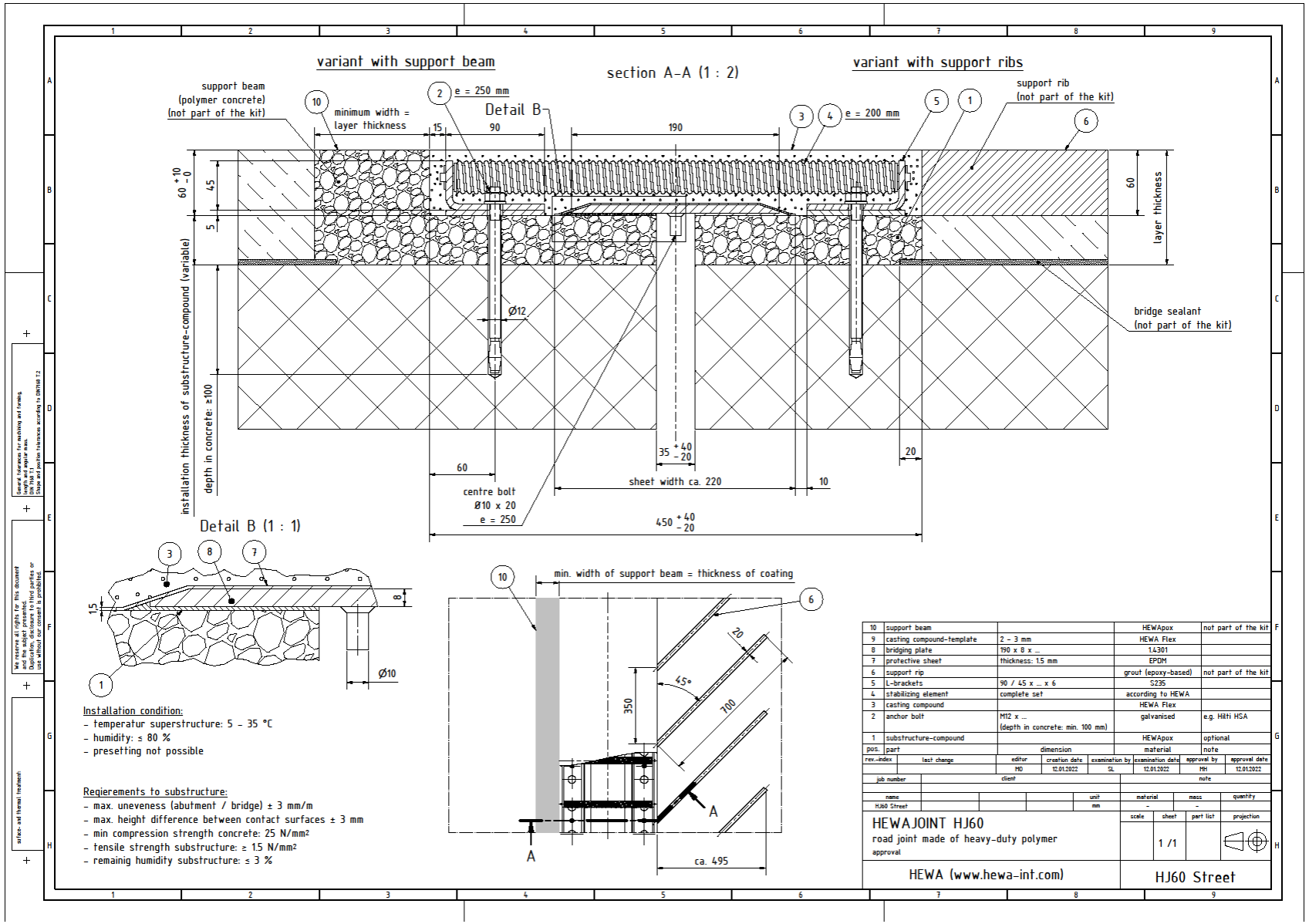
section A-A (1 : 2)
variant with support ribs
support beam
(polymer concrete)
(not part of the kit)
minimum width =
layer thickness
e = 250 mm
Detail B
e = 200 mm
support rib
(not part of the kit)
15
90
160
60 + 10 - 0
45
5
60
layer thickness
installation thickness of substructure-compound (variable)
depth in concrete: ≥100
Ø12
bridge sealant
(not part of the kit)
60
32 + 33 - 17
20
centre bolt
Ø10 x 20
e = 250
sheet width ca. 186
2
400 + 33 - 17
Detail B (1 : 1)
1,5
5
Ø10
min. width of support beam = thickness of coating
20
45°
350
700
A
A
ca. 495
Installation condition:
- temperatur superstructure: 5 - 35 °C
- humidity: ≤ 80 %
- presetting not possible
Requirements to substructure:
- max. uneveness (abutment / bridge) ± 3 mm/m
- max. height difference between contact surfaces ± 3 mm
- min compression strength concrete: 25 N/mm²
- tensile strength substructure: ≥ 1.5 N/mm²
- remainig humidity substructure: ≤ 3 %
10 support beam HEWApox not part of the kit
9 casting compound-template 2 - 3 mm HEWA Flex
8 bridging plate 160 x 5 x ... 1.4301
7 protective sheet thickness: 1.5 mm EPDM
6 support rip grout (epoxy-based) not part of the kit
5 L-brackets 90 / 45 x ... x 6 S235
4 stabilizing element complete set according to HEWA
3 casting compound HEWA Flex
2 anchor bolt M12 x ... (depth in concrete: min. 100 mm) galvanised e.g. Hilti HSA
1 substructure-compound HEWApox optional
pos. part dimension material note
rev.-index last change editor creation date examination by examination date approval by approval date
MD 11.01.2022 SL 11.01.2022 MH 11.01.2022
job number client note
name unit material mass quantity
HJ50 Street mm - -
HEWAJOINT HJ50
road joint made of heavy-duty polymer
approval
scale sheet part list projection
- 1 /1
HEWA (www.hewa-int.com)
HJ50 Street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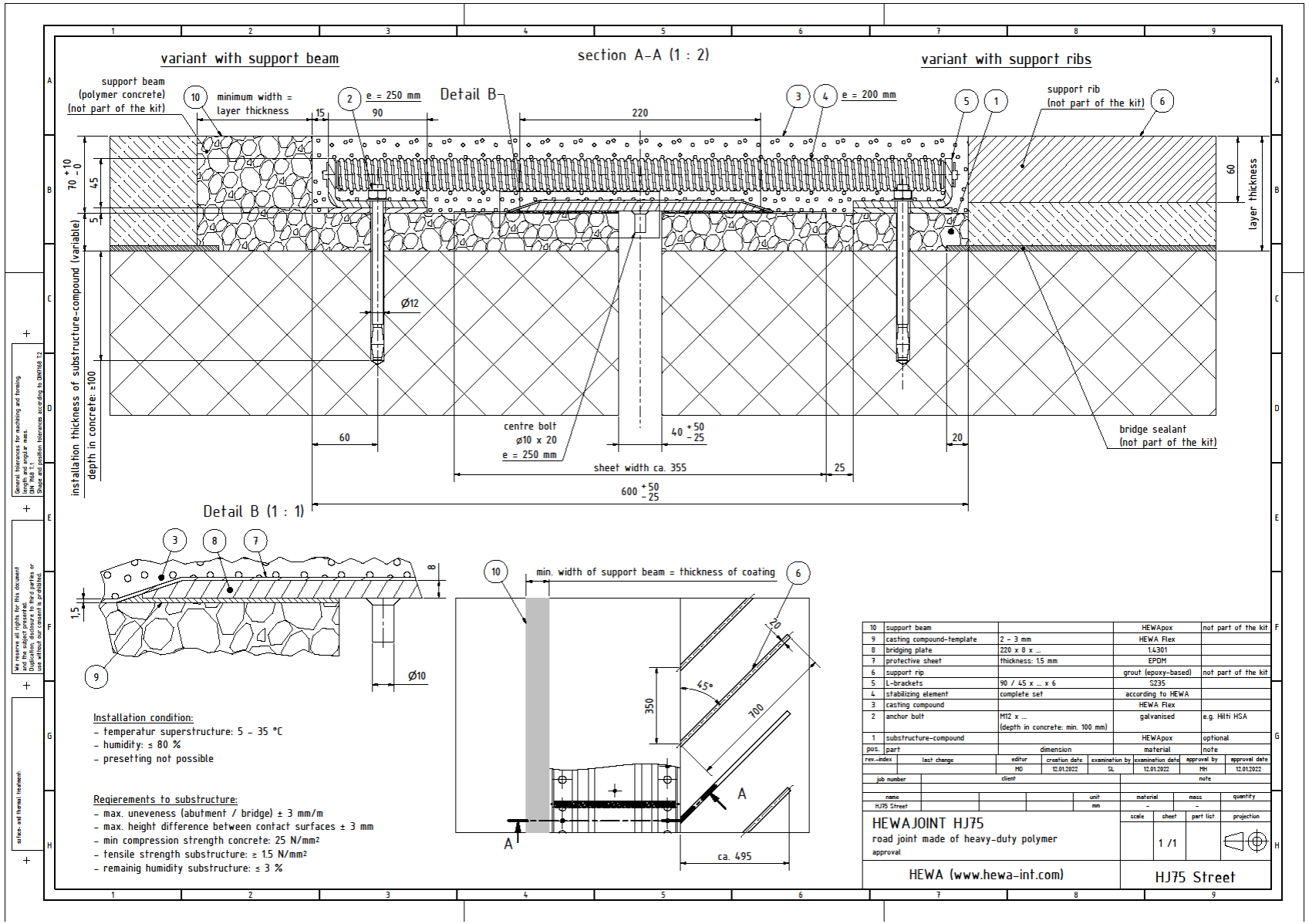
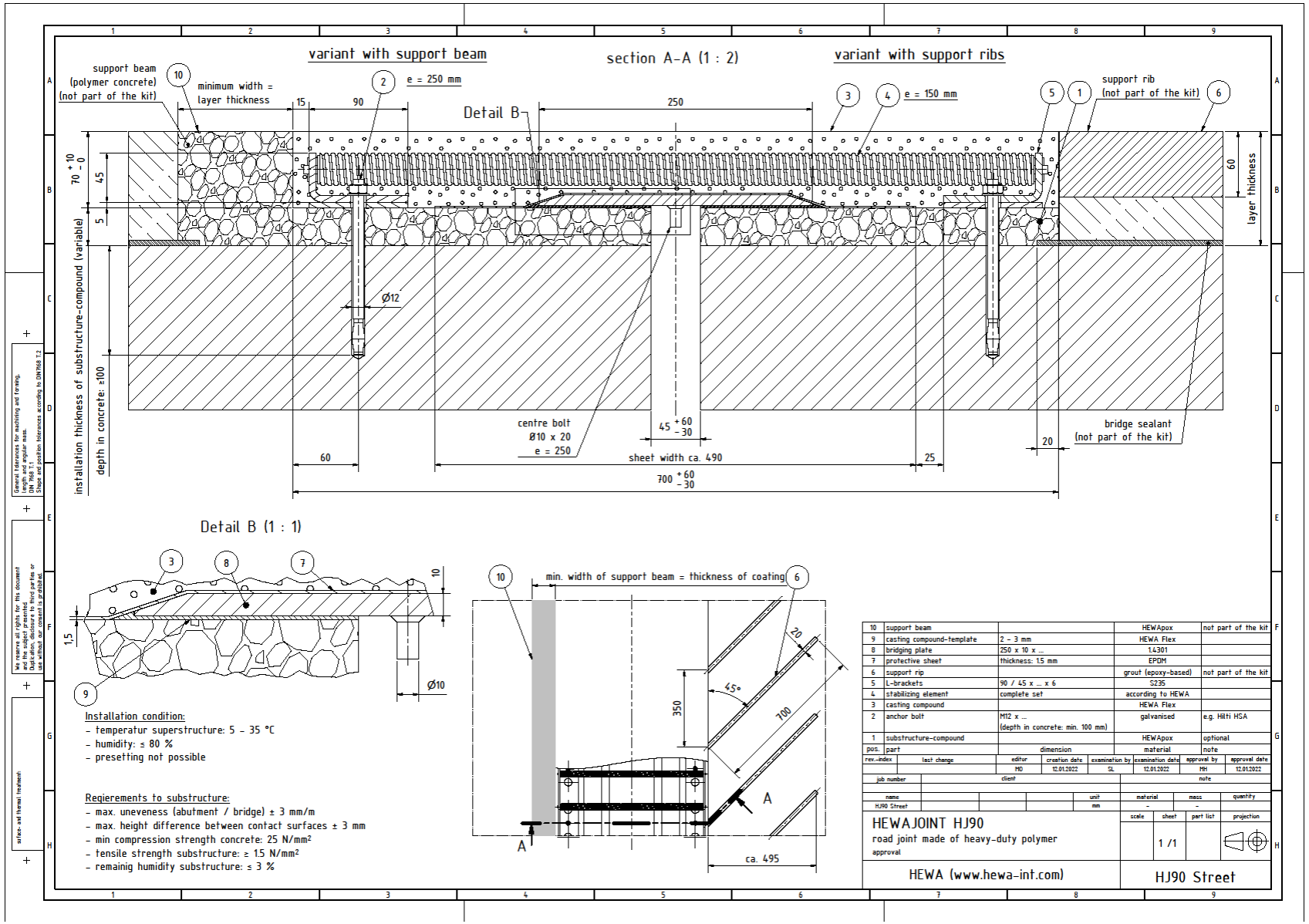
section A-A (1 : 2)
variant with support ribs
support beam
(polymer concrete)
(not part of the kit)
minimum width =
layer thickness
e = 250 mm
Detail B
e = 200 mm
support rib
(not part of the kit)
15
90
190
60 +10 -0
45
5
60
layer thickness
installation thickness of substructure-compound (variable)
depth in concrete: ≥100
Ø12
bridge sealant
(not part of the kit)
35 +40 -20
20
60
sheet width ca. 220
10
centre bolt
Ø10 x 20
e = 250
450 +40 -20
Detail B (1 : 1)
15
8
Ø10
min. width of support beam = thickness of coating
20
45°
350
700
A
A
ca. 495
Installation condition:
- temperatur superstructure: 5 - 35 °C
- humidity: ≤ 80 %
- presetting not possible
Regierements to substructure:
- max. uneveness (abutment / bridge) ± 3 mm/m
- max. height difference between contact surfaces ± 3 mm
- min compression strength concrete: 25 N/mm²
- tensile strength substructure: ≥ 1.5 N/mm²
- remainig humidity substructure: ≤ 3 %
10 support beam HEWApox not part of the kit
9 casting compound-template 2 - 3 mm HEWA Flex
8 bridging plate 190 x 8 x ... 1.4301
7 protective sheet thickness: 1.5 mm EPDM
6 support rip grout (epoxy-based) not part of the kit
5 L-brackets 90 / 45 x ... x 6 S235
4 stabilizing element complete set according to HEWA
3 casting compound HEWA Flex
2 anchor bolt M12 x ... (depth in concrete: min. 100 mm) galvanised e.g. Hilti HSA
1 substructure-compound HEWApox optional
pos. part dimension material note
rev.-index last change editor creation date examination by examination date approval by approval date
MD 12.01.2022 SL 12.01.2022 MH 12.01.2022
job number client note
name unit material mass quantity
HJ60 Street mm - -
HEWAJOINT HJ60
road joint made of heavy-duty polymer
approval
scale sheet part list projection
1 /1
HEWA (www.hewa-int.com)
HJ60 Street


variant with support beam
section A-A (1 : 2)
variant with support ribs
support beam (polymer concrete) (not part of the kit)
minimum width = layer thickness
e = 250 mm
Detail B
e = 200 mm
support rib (not part of the kit)
layer thickness
installation thickness of substructure-compound (variable)
depth in concrete: ≥100
centre bolt ø10 x 20 e = 250 mm
bridge sealant (not part of the kit)
sheet width ca. 355
Detail B (1 : 1)
min. width of support beam = thickness of coating
ca. 495
Installation condition:
- temperatur superstructure: 5 - 35 °C
- humidity: ≤ 80 %
- presetting not possible
Regierements to substructure:
- max. uneveness (abutment / bridge) ± 3 mm/m
- max. height difference between contact surfaces ± 3 mm
- min compression strength concrete: 25 N/mm²
- tensile strength substructure: ≥ 1.5 N/mm²
- remainig humidity substructure: ≤ 3 %
HEWAJOINT HJ75
road joint made of heavy-duty polymer
HEWA (www.hewa-int.com)
HJ75 Street



pos.	part	dimension	material	note
10	support beam		HEWApox	not part of the kit
9	casting compound-template	2 - 3 mm	HEWA Flex	
8	bridging plate	250 x 10 x ...	1.4301	
7	protective sheet	thickness: 1.5 mm	EPDM	
6	support rip		grout (epoxy-based)	not part of the kit
5	L-brackets	90 / 45 x ... x 6	S235	
4	stabilizing element	complete set	according to HEWA	
3	casting compound		HEWA Flex	
2	anchor bolt	M12 x ... (depth in concrete: min. 100 mm)	galvanised	e.g. Hilti HSA
1	substructure-compound		HEWApox	optional

rev.-index	last change	editor	creation date	examination by	examination date	approval by	approval date
		MD	12.01.2022	SL	12.01.2022	MH	12.01.2022

job number	client	note

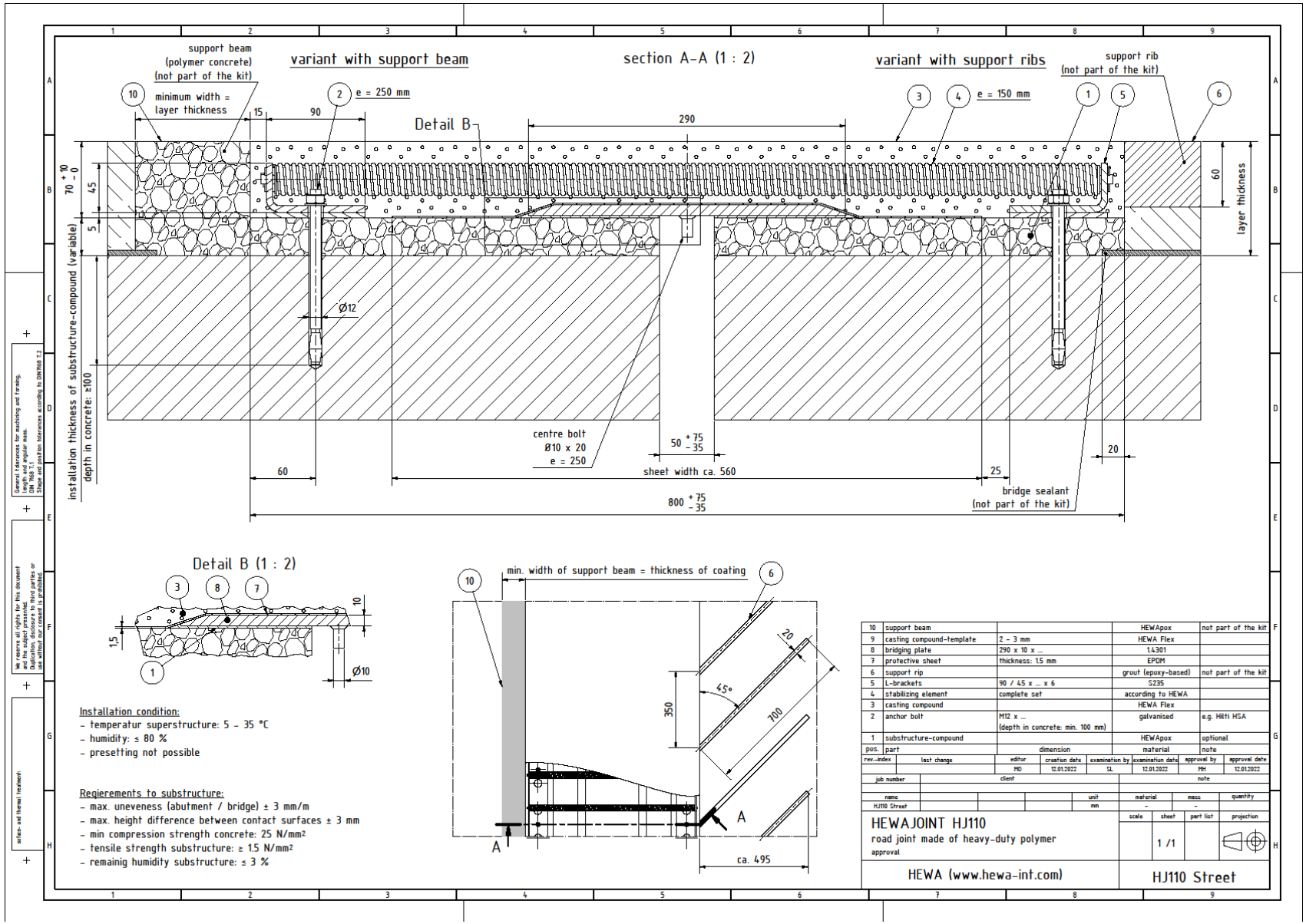
name	unit	material	mass	quantity
HJ90 Street	mm	-	-	

scale	sheet	part list	projection
	1 /1		

approval

General tolerances for machining and forming, length and angular mass. DIN 7168 T.1 Shape and position tolerances according to DIN7168 T.2

surface- and thermal treatment:



pos.	part	dimension	material	note
10	support beam		HEWApox	not part of the kit
9	casting compound-template	2 - 3 mm	HEWA Flex	
8	bridging plate	290 x 10 x ...	1.4301	
7	protective sheet	thickness: 1.5 mm	EPDM	
6	support rip		grout (epoxy-based)	not part of the kit
5	L-brackets	90 / 45 x ... x 6	S235	
4	stabilizing element	complete set	according to HEWA	
3	casting compound		HEWA Flex	
2	anchor bolt	M12 x ... (depth in concrete: min. 100 mm)	galvanised	e.g. Hilti HSA
1	substructure-compound		HEWApox	optional

rev.-index	last change	editor	creation date	examination by	examination date	approval by	approval date
		MD	12.01.2022	SL	12.01.2022	MH	12.01.2022

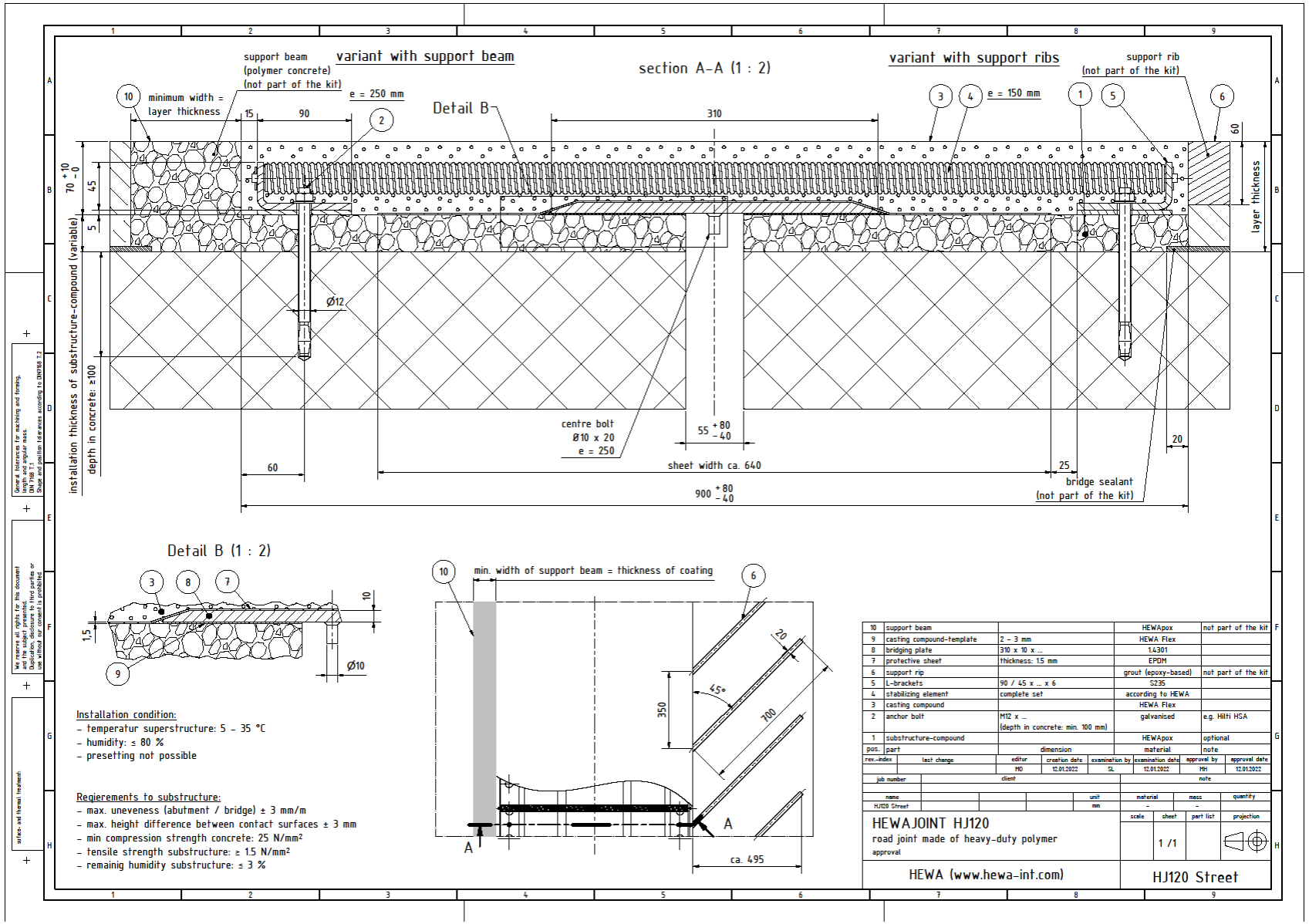
job number	client	note

name	unit	material	mass	quantity
HJ110 Street	mm	-	-	

scale	sheet	part list	projection
	1 /1		

General tolerances for machining and forming, length and angular mass. DIN 7168 T.1 Shape and position tolerances according to DIN 7168 T.2

surface- and thermal treatment



pos.	part	dimension	material	note
10	support beam		HEWApox	not part of the kit
9	casting compound-template	2 - 3 mm	HEWA Flex	
8	bridging plate	310 x 10 x ...	1.4301	
7	protective sheet	thickness: 1.5 mm	EPDM	
6	support rip		grout (epoxy-based)	not part of the kit
5	L-brackets	90 / 45 x ... x 6	S235	
4	stabilizing element	complete set	according to HEWA	
3	casting compound		HEWA Flex	
2	anchor bolt	M12 x ... (depth in concrete: min. 100 mm)	galvanised	e.g. Hilti HSA
1	substructure-compound		HEWApox	optional

rev.-index	last change	editor	creation date	examination by	examination date	approval by	approval date
		MO	12.01.2022	SL	12.01.2022	MH	12.01.2022

name	unit	material	mass	quantity
HJ120 Street	mm	-	-	

scale	sheet	part list	projection
	1 /1		