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OiB
 Member of EOTA

European technical approval

ETA-12/0260

(English translation, the original version is in German)

Handelsbezeichnung
Trade name

POLYFLEX® Advanced PU

Zulassungsinhaber
Holder of approval

Reisner & Wolff Engineering GmbH
Terminalstraße 25
4600 Wels
Austria

Zulassungsgegenstand
 und Verwendungszweck

**Elastische Belagsdehnfuge für einen nominellen Dehnweg
 von 15 mm – 135 mm**

*Generic type and use
 of construction product*

*Flexible plug expansion joint for nominal movement capacity of
 15 mm – 135 mm*

Geltungsdauer vom
Validity from
 bis zum
 to

26.07.2012

25.07.2017

Herstellwerk
Manufacturing plant

**Auflistung der Herstellwerke festgelegt in der technischen
 Dokumentation**
*Comprehensive list of manufacturing plants laid down in
 technical documentation*

Diese Europäische technische
 Zulassung umfasst
*This European technical ap-
 proval contains*

26 Seiten einschließlich 3 Anhänge

26 pages including 3 Annexes



European Organisation for Technical Approvals
 Europäische Organisation für Technische Zulassungen
 Organisation Européenne pour l'Agrément Technique

I LEGAL BASES AND GENERAL CONDITIONS

- 1 This European technical approval is issued by the Österreichisches Institut für Bautechnik in accordance with:
 - Council Directive 89/106/EEC of 21 December 1988 on the approximation of laws, regulations and administrative provisions of the Member States relating to construction products¹, modified by the Council Directive 93/68/EEC of 22 July 1993²;
 - Oberösterreichisches Bautechnikgesetz, LGBl. Nr. 67/1994, zuletzt geändert durch das Landesgesetz LGBl. Nr. 68/2011;
 - Common Procedural Rules for Requesting, Preparing and the Granting of European technical approvals set out in the Annex of Commission Decision 94/23/EC³;
- 2 The Österreichisches Institut für Bautechnik is authorised to check whether the provisions of this European technical approval are met. Checking may take place in the manufacturing plant(s). Nevertheless, the responsibility for the conformity of the products to the European technical approval and for their fitness for the intended use remains with the holder of the European technical approval.
- 3 This European technical approval is not to be transferred to manufacturers or agents of manufacturers other than those indicated on page 1 or manufacturing plants other than those laid down in the context of this European technical approval.
- 4 This European technical approval may be withdrawn by the Österreichisches Institut für Bautechnik, in particular after information by the Commission on the basis of Article 5 (1) of Council Directive 89/106/EEC.
- 5 Reproduction of this European technical approval including transmission by electronic means shall be in full. However, partial reproduction can be made with the written consent of the Österreichisches Institut für Bautechnik. In this case partial reproduction has to be designated as such. Texts and drawings of advertising brochures shall not contradict or misuse the European technical approval.
- 6 The European technical approval is issued by the approval body in its official language. This version corresponds to the version circulated within EOTA. Translations into other languages have to be designated as such.

¹ Official Journal of the European Communities N° L 40, 11.2.1989, p. 12

² Official Journal of the European Communities N° L 220, 30.8.1993, p. 1

³ Official Journal of the European Communities N° L 17, 20.1.1994, p. 34

II SPECIFIC CONDITIONS OF THE EUROPEAN TECHNICAL APPROVAL

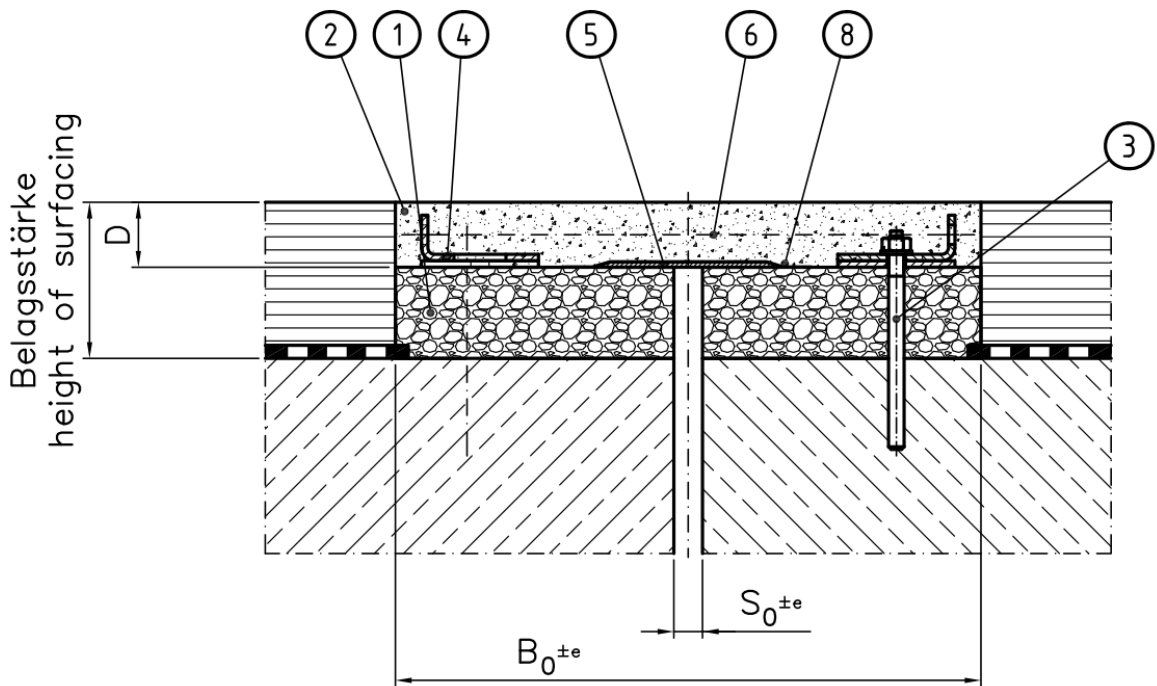
1 Definition of product and intended use

1.1 Definition of product

The flexible plug expansion joint **POLYFLEX® Advanced PU** is an in-situ poured joint comprising a specially formulated flexible non-thermo plastic material as joint filling material, which also forms the surfacing, supported over the deck joint gap by a thin metal plate. The material used in the flexible joint filling material is based on advanced polyurethane. The subject of this European technical approval is the complete flexible plug expansion joint kit.

The types of the flexible plug expansion joint **POLYFLEX® Advanced PU** are defined in table 1 of this ETA and are depicted in the Annexes 1.1 – 1.7 of this ETA. The components are depicted in figure 1.

Figure 1: Standard cross section with polymer concrete base of the flexible plug expansion joint **POLYFLEX® Advanced PU**



Key

- (1) Substructure (not part of kit)
- (2) Joint filling material based on advanced polyurethane
- (3) / (4) Fixation kit consisting of bolt kit (3) and steel angle with distance plate (4)
- (5) Bridging plate
- (6) Stabilizing element, consisting of structural steel with covering for nominal movements beyond 30 mm
- (8) Sliding sheet for types PA30 – PA135

- Surface dressing (not shown in Figure 1): Application acc. to Installation Instructions
- Primer (not shown in Figure 1): Application on horizontal and vertical surfaces in contact with joint filling material (substructure and adjacent surfacing) in accordance with Installation Instructions

B_0 Joint width in central position

S_0 Bridge gap in central position

The positioning of the bridging plate (5) to the substructure (1) is granted either by mechanical fixation or centering elements, depicted in Annex 1.10 and Annex 1.11 of this ETA, depending on the individual design situation.

The substructure (1) is not part of the kit. Boundary conditions are defined in clause 4.2 in this ETA.

The nominal movement capacity is 15 mm – 135 mm according to the declaration of the manufacturer. The minimum/maximum width in traffic direction is 275/290 mm – 1055/1190 mm according to table 1. The minimum/maximum thickness D according to figure 1 and table 1 is 40/60 mm, whereas this thickness is to be applied over the whole width without any change.

For the selection of appropriate type of expansion joint for the individual work, the concerned tension e^+ and compression e^- for the movement capacity according to table 1 thereafter shall be considered.

Table 1: Standard geometry of flexible plug expansion joint **POLYFLEX® Advanced PU** in respect to its movement capacity

Type	Total movement [mm]	Movement tension [mm]	Movement compression [mm]	Thickness [mm]	Joint width in central position [mm]
Typ	Dehnweg gesamt [mm]	Dehnweg Zug [mm]	Dehnweg Druck [mm]	Einbaustärke [mm]	Fugenbreite in Nullstellung [mm]
	e	e^+	e^-	D	B_0
PA15	15	10	-5	40	280
PA30	30	20	-10	50	350
PA50	50	33	-17	60	450
PA60	60	40	-20	60	500
PA75	75	50	-25	60	600
PA90	90	60	-30	60	750
PA135	135	90	-45	60	1100

The thickness and joint width can be adjusted accordingly, depending on the individual situation.

The complete joint is created on site by placing the fixation kit, the joint filling material and all related ancillaries in the longitudinal axis of the joint.

In its longitudinal axis the flexible plug expansion joint **POLYFLEX® Advanced PU** includes the carriageway with/without cyclist areas and with/without footpath, as depicted in Annexes A 1.8 and A 1.9 of this ETA. Separate devices for footpath and collision on kerbs are not considered because such elements are not part of the kit.

The components and materials which constitute the flexible plug expansion joint **POLYFLEX® Advanced PU** are specified in clause 2.1.2 and in Annex 2 in this ETA.

1.2 Intended use

The flexible plug expansion joint **POLYFLEX® Advanced PU** is used for the user categories vehicles, cyclists and pedestrians. The expansion joint system is designated to be applied in new structures and for refurbishment of structures.

Therefore, for the design situation ultimate limit state (ULS), related to the bridging plate and the steel angle, the fundamental combinations of action and the combination of actions for fatigue limit state are considered.

The bond strength to support, including the observed modes of failure, is given in table 5b in Annex 2 of this ETA.

In respect to durability the joint filling material retains its functionality regarding exposure to defined chemical agents (petrol, diesel) and alkali, whereas the duration of exposure is defined with 3 days in order to cover ordinary and extraordinary situations. Ageing resulting from accelerating temperature (exposition: 70 °C/28d), UV-radiation and weathering are not affecting the performance of the joint filling material.

Ageing resulting from ozone does not lead to microcracks. Microcracks are defined according to the criteria given in ISO 4628-4.

In case of joint filling material without surface dressing visual changes of the surface of the joint filling material (like bubbles, surface cracks change in colour and skin) can occur in its appearance due to UV-radiation and weathering.

Note: In case of joint filling material including surface dressing, no significant visual changes and no loss of surface dressing were observed in the approval testing.

For the identification of the joint filling material RW60A the relevant parameters are laid down in the technical documentation. The material characteristics are confidential⁴ and are deposited with the approval body Österreichisches Institut für Bautechnik.

2.1.2.2 Bridging plate

General information on the design of the bridging plate is laid down in drawings, depicted in Annex 1 of this ETA. The minimum steel grade is defined as S235JR, whereas for the relevant mechanical properties and chemical composition EN 10025-2 applies.

Regarding the possible use of steel elements for low temperatures EN 1993-1-10, table 2.1, applies.

The bridging plate is hot-galvanized according to EN ISO 1461.

2.1.2.3 Fixation kit

General information on the design of the fixation kit is laid down in drawings, depicted in Annex.1.10 and Annex 1.11 of this ETA. The minimum steel grade for the steel angle and related distance plate is defined as S235JR, whereas for the relevant mechanical properties and chemical composition EN 10025-2 applies.

Regarding the possible use of steel elements for low temperatures EN 1993-1-10, table 2.1, applies.

The bolts, corrosion-protected by means of electro-galvanisation, to be applied with distances of centre to centre of not more than 250 mm in the fixation kit, are in conformity with the relevant technical specification, deposited with the approval body Österreichisches Institut für Bautechnik, whereas its design shall be at least M10 8.8.

For the steel angles separate corrosion protection is not necessary as the joint filling material is acting as complete covering for the elements.

2.1.2.4 Stabilizing element

Stabilizing elements are used for the product types, defined in table 1 in this ETA, for nominal movements beyond 30 mm. They consist of a steel tube and steel bar and a plastic covering, depicted in Annex.1.11 of this ETA. The tube and bar is made of steel with minimum yield strength of 235 N/mm². The material characteristics are laid down in the technical documentation deposited with the approval body Österreichisches Institut für Bautechnik.

⁴ The technical documentation of this European technical approval has been deposited at the Österreichisches Institut für Bautechnik and, as far as relevant for the tasks of the approved body involved in the attestation of conformity procedure, is handed over to the approved body.

For the plastic covering the relevant parameters for identification are laid down in the technical documentation deposited with the approval body Österreichisches Institut für Bautechnik.

For the steel elements separate corrosion protection is not necessary as the bar is covered completely by the plastic covering and the joint filling material.

2.1.2.5 Sliding sheet

For the sliding sheet plastics made of EPDM are used. The material characteristics are laid down in the technical documentation deposited with the approval body Österreichisches Institut für Bautechnik.

2.1.2.6 Primer

The primers, used depending on the type of substructure, are defined by their compound numbers RW60P, RW81P and RW91P and laid down in the technical documentation deposited with the approval body Österreichisches Institut für Bautechnik. Depending on the applied surface, an additional surface dressing, defined and laid down in the technical documentation, may be used. The primers and surface dressing are identified by the identification parameters laid down in the technical documentation deposited with the approval body Österreichisches Institut für Bautechnik.

2.1.2.7 Surface dressing

The surface dressing is defined as angular material with size 0,7 mm – 1,2 mm. The relevant parameters are defined and laid down in the technical documentation deposited with the approval body Österreichisches Institut für Bautechnik.

2.1.3 Assembled kit

2.1.3.1 Mechanical resistance and stability (ER 1)

The results of the assessment of mechanical resistance of the bridging plate and steel angle at ultimate limit state (ULS) are given in tables 2a and 2b, whereas a partial factor $\gamma_{Q1} = 1,35$ has been taken into account.

Table 2a: Dimensions of the bridging plate for the flexible plug expansion joint **POLYFLEX® Advanced PU**, depending on maximum bridge gap and calculated for a minimum thickness of the expansion joint of 40 mm

Maximum bridge gap [mm]	30	40	50	60	70	80	90	100	110	120	130	140
Requested thickness of bridging plate [mm]	2	3	4	4	5	5	6	7	7	8	9	9

Table 2b: Dimensions of the steel angle for the different types of the flexible plug expansion joint **POLYFLEX® Advanced PU**

Type	PA15	PA30	PA50	PA60	PA75	PA90	PA135
Dimensioning of steel angle [mm] (long wing/short wing)	70/25	70/35	90/45	90/45	90/45	90/45	90/45
Requested thickness of steel angle [mm]	5	6	6	6	6	6	5

The nominal movement capacities of the flexible plug expansion joint **POLYFLEX® Advanced PU** for the concerned product types and related maximum tensions and maximum compressions are given in table 1 in this ETA. The measured resulting maximum reaction forces, resulting from slow occurring movements, and related maximum vertical deformations are given in table 3 thereafter. Reaction forces resulting from fast occurring movements due to overrolling traffic are less than those resulting from slow occurring movements.

Table 3: Comprehensive table of reaction forces and deformations for product types PA 15 – PA 135 (at 15 °C) for the flexible plug expansion joint **POLYFLEX® Advanced PU**

Type	Maximum measured deformation: Elevation [mm]	Maximum measured deformation: Dimple [mm]	Reaction force to be considered in the bridge design [kN/m]
PA15	3,0	- 3,5	8
PA30	3,0	- 3,5	14
PA50	3,0	- 6,0	31
PA60	3,5	- 6,5	28
PA75	4,0	- 5,0	32
PA90	4,5	- 5,0	29
PA135	6,0	- 6,5	31

In comparison to the results given in table 3 an average increase of 25 % of the reaction forces for application of **POLYFLEX® Advanced PU** for minimum operating temperature -40 °C should be considered. For dimensioning of the adjacent structures the given values shall be taken as maximum absolute values regardless of their prefix.

The assembled kit **POLYFLEX® Advanced PU** remains watertight. Drainage systems to be installed before or after the flexible plug expansion joints and the watertight connections to the bridge deck waterproofing are not subject of this ETA. The assessment of such components is subject to national regulations of the Member State of destination, if any.

2.1.3.2 Hygiene, health and environment (ER 3) Release of dangerous substances

The kit complies with the provisions of Guidance Paper H⁵/EU data-base about dangerous substances.

The components of the joint filling material contains Diethylmethylbenzoldiamin (CAS number: 68479-98-1) and Isocyanatmethyl-3,5,5-Trymethylcyclohexylisocyanat (CAS number: 4098-71-9).

A declaration of conformity in this respect was made by the manufacturer.

In addition to the specific clauses relating to dangerous substances contained in this European technical approval, there may be other requirements applicable to the product falling within its scope (e.g. transposed European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the EU Construction Products Directive, these requirements need also to be complied with, when and where they apply.

2.1.3.3 Safety in use (ER 4)

Without imposed horizontal deformation and in unloaded conditions the level difference in the running surface for all types of the flexible plug expansion joint **POLYFLEX® Advanced PU** according to table 1 in this ETA is less than 3 mm and steps are not occurring (without consideration of the surface texture).

The maximum level differences in the running surface after loading is given by 0,5 mm, whereas the maximum allowable value is 10 mm.

The PTV values according to EN 13063-4 for skid resistance of joint filling material with surface dressing are given in table 4.

Table 4: Skid resistance of the flexible plug expansion joint **POLYFLEX® Advanced PU**

Intended use	PTV value according to EN 13063-4
Carriageway	70
Footpath	61

2.2 Methods of verification

The assessment of the fitness of the flexible plug expansion joint **POLYFLEX® Advanced PU** for the intended use was undertaken according to the CUAP (Common Understanding of Assessment Procedure) for "Flexible plug expansion joints for road bridges with flexible filling based on advanced polyurethane", ETA request No 01.07/06, version October 2011.

⁵ Guidance Paper H: A harmonised approach relating to dangerous substances under the Construction Products Directive, edition September 2002

3 Evaluation of conformity and CE marking

3.1 Attestation of conformity system

The system of attestation of conformity specified by the Commission Decision 2001/19/EC⁶ is system 1 according to Council Directive 89/106/EEC, Annex III, section 2 (i), without audit-testing of samples, and is detailed as follows:

(a) Tasks for the manufacturer

(1) Factory production control

(2) Further testing of samples taken at the factory by the manufacturer in accordance with a prescribed test plan

(b) Tasks for the approved body

(3) Initial type-testing of the product

(4) Initial inspection of factory and of factory production control

(5) Continuous surveillance, assessment and approval of factory production control

3.2 Responsibilities

3.2.1 Tasks of the manufacturer

3.2.1.1 Factory production control

The manufacturer shall exercise permanent internal control of production. All the elements, requirements and provisions adopted by the manufacturer shall be documented in a systematic manner in the form of written policies and procedures. This production control system shall insure that the product is in conformity with this European technical approval.

The manufacturer shall use materials stated in the technical documentation⁷ of this European technical approval only.

In the framework of factory production control the manufacturer carries out controls in accordance with the control plan⁸ which is fixed with this European technical approval.

Details of the extent, nature and frequency of controls to be performed within the factory production control correspond to this control plan which is part of the technical documentation of this European technical approval.

The results of factory production control shall be recorded in checklists signed by the person responsible and are evaluated. The records shall be presented to the notified body involved in continuous surveillance. On request the records must be presented to the Österreichisches Institut für Bautechnik.

3.2.1.2 Other tasks of manufacturer

3.2.1.2.1 Testing of samples taken at the factory

Testing of samples taken at the factory by the manufacturer as laid down in the control plan.

3.2.1.2.2 Declaration of conformity

If all the criteria of the conformity attestation are satisfied the manufacturer shall make a declaration of conformity.

⁶ Official Journal of the European Communities N° L 206 of 3.7.2001 and confirmation of EOTA dated 14 December 2009

⁷ The technical documentation of this European technical approval has been deposited at the Österreichisches Institut für Bautechnik and, as far as relevant for the tasks of the approved body involved in the attestation of conformity procedure, is handed over to the approved body.

⁸ The control plan has been deposited at Österreichisches Institut für Bautechnik and is handed over only to the approved body involved in the attestation of conformity procedure.

3.2.2 Tasks of notified bodies

3.2.2.1 Initial type-testing of the product

For initial type-testing the results of the tests performed as part of the assessment for the European technical approval may be used unless there are changes in the manufacture production process or manufacturing plant. In such cases the necessary initial type-testing has to be agreed between the Österreichisches Institut für Bautechnik and the notified body involved.

3.2.2.2 Initial inspection of factory and of factory production control

The notified body shall ascertain that, in accordance with the control plan, the manufacturing plant, in particular personnel and equipment, and the factory production control are suitable to ensure a continuous and orderly manufacturing of the flexible plug expansion joint **POLY-FLEX® Advanced PU** according to the specifications given in clause 2 and the Annexes of the European technical approval.

3.2.2.3 Continuous surveillance, assessment and approval of factory production control

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

It has to be verified that the system of factory production control and the specified manufacturing process are maintained taking into account the control plan.

Continuous surveillance and assessment of factory production control have to be performed according to the control plan.

The results of continuous surveillance shall be made available on demand by the notified body or the approval body Österreichisches Institut für Bautechnik. In cases where the provisions of the European technical approval and the control plan are no longer fulfilled, the certificate of conformity shall be withdrawn.

3.2.2.4 Certification

If all criteria for conformity attestation are fulfilled the notified body shall issue certification of conformity of the product.

3.3 CE marking

The letters “CE” shall correspond to the Council Directive 93/68/EEC. The CE conformity symbol shall be affixed, where applicable on the flexible plug expansion joint itself or nearby, at least on the accompanying documentation.

The CE marking of the flexible plug expansion joint shall be accompanied by the following information:

- Identification number of the notified certification body
- Name and address or identifying mark of the producer
- Last two digits of the year in which the CE marking was affixed
- Number of the EC certificate of conformity
- Number of the European technical approval
- Description of the product: type of product and intended use
- Declaration of nominal movement capacity: [mm]
- Statement on the presence of dangerous substances, including concentration, if any

3.4 Identification of the kit

A permanent label of identification shall be provided with the flexible plug expansion joint kit with the accompanying documentation. The information contained on it shall consist of:

- Number of the European Technical Approval
- Number of the EC certificate of conformity
- Declaration of nominal movement capacity: [mm]
- Identification (Identification number = works order number, year of delivery)
- Location of installation

4 Assumptions under which the fitness of the product for the intended use was favourably assessed

4.1 Manufacturing

The flexible plug expansion joint **POLYFLEX® Advanced PU** is manufactured in accordance with the provisions of this European technical approval, using the manufacturing process as identified by the approval body and laid down in the technical documentation and related manufacturer files.

The European technical approval is issued for flexible plug expansion joint **POLYFLEX® Advanced PU** on the basis of agreed data, deposited with the Österreichisches Institut für Bautechnik, which identifies the flexible plug expansion joint **POLYFLEX® Advanced PU** that has been assessed and judged. Changes which could result in this deposited data being incorrect shall be notified to the Österreichisches Institut für Bautechnik before the changes are introduced. The Österreichisches Institut für Bautechnik will decide whether or not such changes affect the European technical approval and consequently the validity of the CE marking on the basis of the European technical approval and if so whether further assessment/alterations to the European technical approval, shall be necessary.

4.2 Installation

Provisions for proper installation of the kit are provided for each delivered kit. The installation instructions are deposited with the approval body Österreichisches Institut für Bautechnik. The installation instructions include detailed guidance for the possible range of ambient temperature for the installation of the joint filling material and preparation of the joint filling material on site.

In general it is recommended to install the flexible plug expansion joint **POLYFLEX® Advanced PU** in a manner that the adjacent bituminous surfacing areas are equipped with additional transitions strips or support ribs.

The substructure (polymer concrete or bridge structure) must provide a minimum compressive strength of 25 N/mm² and a bonding strength of 1,5 N/mm² or higher.

Optionally, the surface of the joint filling material may be sealed by a colourless flexible coating which is not part of the kit covered by this ETA.

The ETA holder shall have the procedures and shall be organized to ensure a constant quality for installation, in particular shall have the resources to give to the installer skilled advice for the preparation of the joint filling material and execution of the product.

The execution of flexible plug expansion joint **POLYFLEX® Advanced PU** shall only be done under control of experienced key technical staff. They shall receive regular training. The training program shall correspond to the installation manual provided by the manufacturer.

5 Recommendations for the manufacturer

5.1 Recommendations on packaging, transport and storage

Materials shall be handled and stored with care, protected from accidental damage. It is the responsibility of the manufacturer of the product to ensure that the information on these provisions is given to those who are concerned.

5.2 Recommendations on use, maintenance, repair

It is the responsibility of the manufacturer of the product to ensure that the information on these provisions is given to those who are concerned. Regular maintenance is normally required to retain performance and to obtain the estimated working life of the product at least at yearly intervals, including inspection sequences and specific measures related to components subject to wear (e.g. surface dressing), taking into account national regulations.

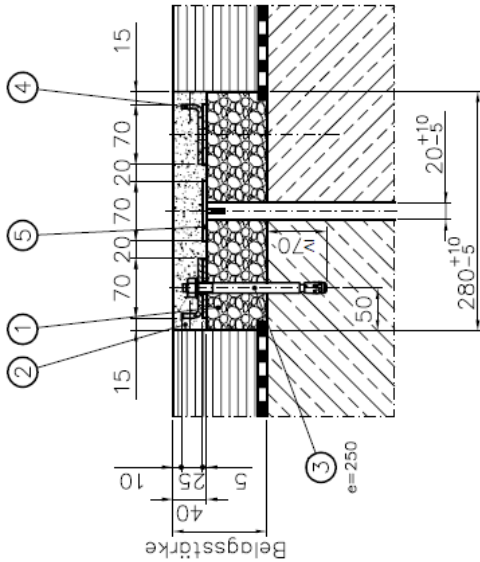
A repair instruction, including specific measures related to repair and replacement, is part of the Manufacturer's Technical File.

On behalf of Österreichisches Institut für Bautechnik

The original document ist signed by:

Rainer Mikulits
Managing Director

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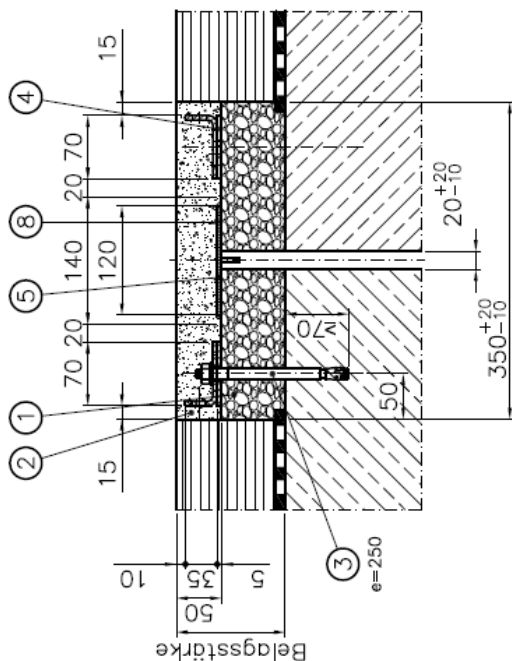


Prüfung:		ZNR.: 9575-1	
Materi:	Gewicht:	Name	Datum
Prüfzeugnis:	Härte:	gez.: Sc	10.08.11
Bezeichnung: PA15		gepr.: Fra	10.08.11
Polyflex Advanced PU Straße		Zulassungszeichnung	
Unterbau Polymerbeton		Maßstab: 1:5	
Reisner & Wolff Engineering, A. - 4600 Weis, Austria, Tel.: ++43 7242 46991, Fax: ++43 7242 48984			

5	Fugenabdeckblech	70x5	sz35ur TN
4	Blechwinkel (RZNr.: 9582)	70x25x5	sz35ur TN
3	Durchsteckanker	M12x...	kompl.
2	Polyflex Advanced PU		
1	Polymerbeton		
Pos.	Benennung	Abmessung	Material
	Stückliste		

**POLYFLEX®
Advanced PU**

Annex 1.1 of European technical approval ETA-12/0260
 Standard cross-section type PA15

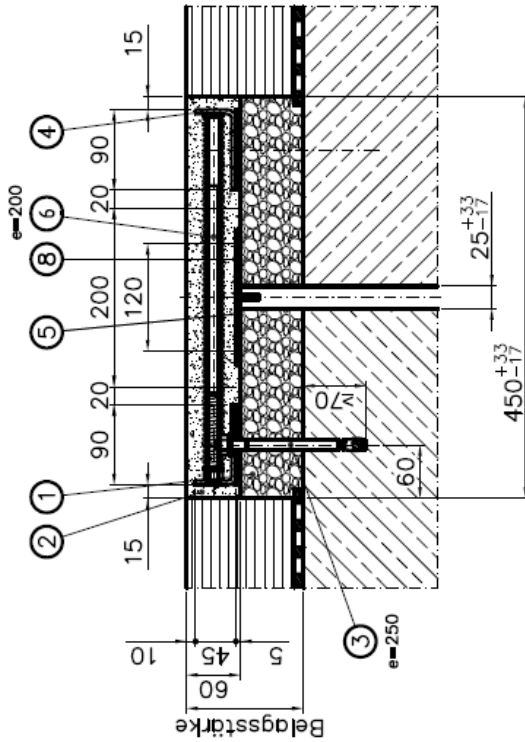


8	Trennfolie	140x1,5	EPDM
5	Fugendeckblech	120x5	s235JR T2N
4	Blechwinkel (RZnr.: 9583)	70x35x5	s235JR T2N
3	Durchsteckanker	M12x...	kompl.
2	Polyflex Advanced PU		
1	Polymerbeton		
Pos.	Benennung	Abmessung	Material
Stückliste			

Prüfung:		Regelzeichnung	
		Znr.: 9576-2	Name Datum
Material:	Gewicht: -	gez.: Sc	12.08.11
Prüfzeugnis: -	Härte: -	gepr.: Fra	25.11.11
Bezeichnung: PA30		Maßstab:	Zulassungszeichnung
Polyflex Advanced PU Straße		1:5	
Unterbau Polymerbeton		Raisner & Wolff Engineering, A- 4600 Wals. Austria. Tel.: ++43 7242 46991. Fax.: ++43 7242 46994	

**POLYFLEX®
Advanced PU**

Annex 1.2 of European technical approval ETA-12/0260
 Standard cross-section type PA30

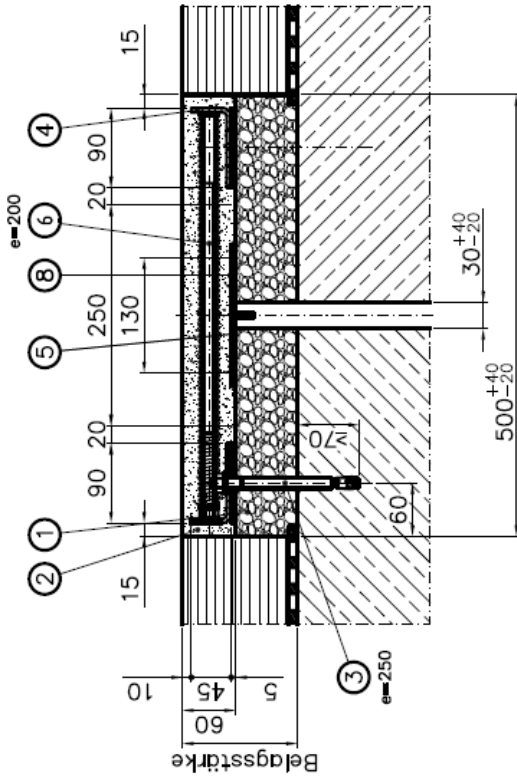


Pos.	Benennung	Abmessung	Material
8	Trennfolie	200x1,5	EPDM
6	Stabilisierungselement	kompl.	kompl.
5	Fugenabdeckblech	120x5	5235.R TN
4	Blechwinkel (RZNr.: 9581)	90x45x5	5235.R TN
3	Durchsteckanker	M12x...	kompl.
2	Polyflex Advanced PU		
1	Polymerbeton		
Stückliste			

Prüfung:		Regelzeichnung	
Material:	-	Znr.:	9343-1
Prüfzeugnis:	-	Name:	
Bezeichnung: PA50 Urethar Polyurethan		gez.:	UM
		Datum:	24.04.12
		gepr.:	UM
		Zulassungszeichnung	
		Maßstab:	1:5

POLYFLEX®
 Advanced PU

Annex 1.3 of European technical approval ETA-12/0260
 Standard cross-section type PA50

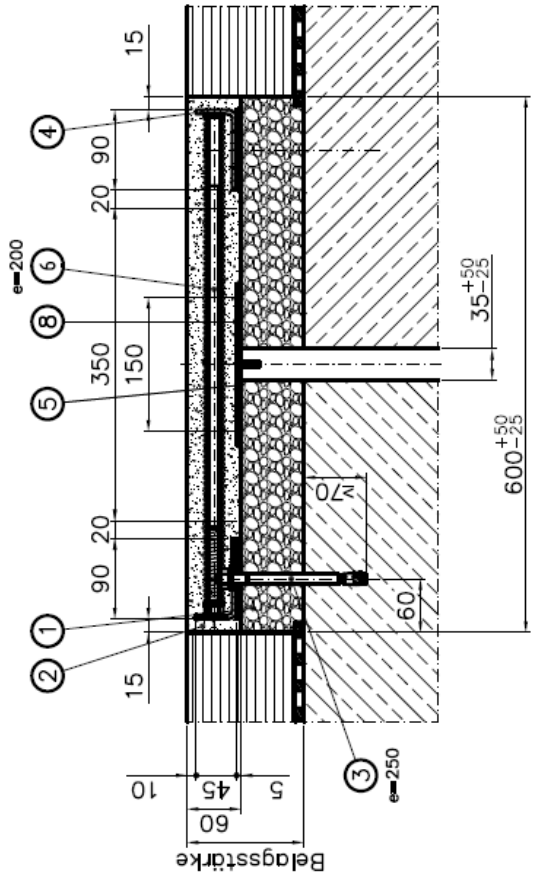


Pos.	Benennung	Abmessung	Material
8	Trennfolie	250x1,5	EPDM
6	Stabilisierungselement		kompl.
5	Fugenabdeckblech	130x5	sz33,8 TN
4	Blechwinkel (RZNR.: 9581)	90x45x5	sz33,8 TN
3	Durchsteckanker	M12x...	kompl.
2	Polyflex Advanced PU		
1	Polymerbeton		
	Stückliste		

Prüfung:		Regelzeichnung	
Material:	--	Znr.: 9344-1	Name
Prüfzeugnis:	--	gezt.: Ljn	Datum
		gepr.: UM	24.04.12
Bezeichnung:	PA60 Polyflex Advanced PU Straße Unbinder Polymerbeton	Maßstab:	1:5
		Zulassungszeichnung	

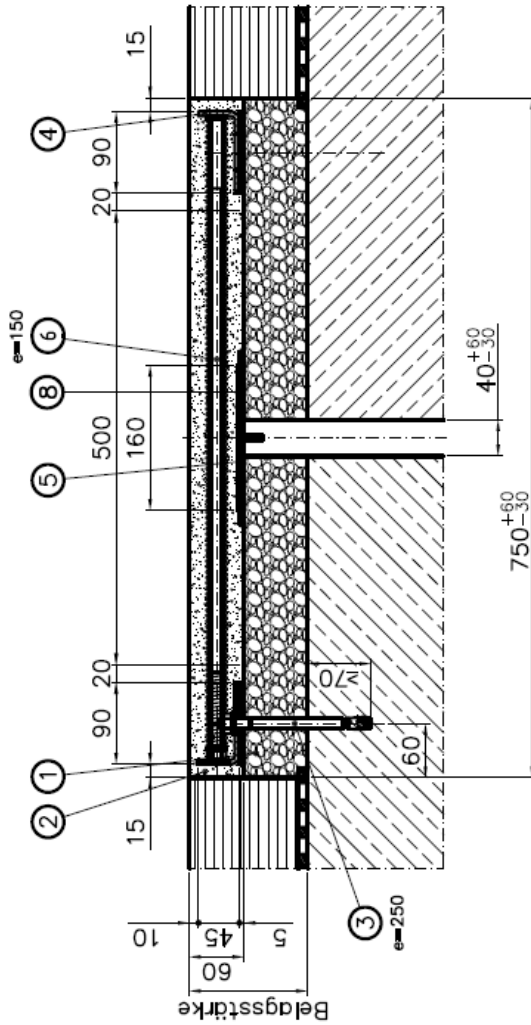
**POLYFLEX®
 Advanced PU**

Annex 1.4 of European technical approval ETA-12/0260
 Standard cross-section type PA60



8	Trennfolie	350x1,5	EPDM
6	Stabilisierungselement	kompl.	kompl.
5	Fugenabdeckblech	150x5	S235LR TH
4	Blechwinkel (RZNr.: 9581)	90x45x5	S235LR TH
3	Durchsteckanker	M12x...	kompl.
2	Polyflex Advanced PU		
1	Polymerbeton		
Pos.	Benennung	Abmessung	Material
	Stückliste		

Prüfung:		Regelzeichnung	
Material:	-	Z.Nr.:	9345-1
Prüfzeugnis:	-	gez.:	Lin
Bezeichnung: PA75		gepr.:	UM
Urheber Polymerbeton		Zulassungszeichnung	
Maßstab:		1:5	
Datum:		24.04.12	
Name:		24.04.12	



Pos.	Benennung	Abmessung	Material
8	Trennfolie	500x1,5	EPDM
6	Stabilisierungselement		kompl.
5	Fugenabdeckblech	160x6	sz33,8 Tm
4	Blechwinkel (RZNr.: 9581)	90x45x5	sz33,8 Tm
3	Durchsteckanker	M12x...	kompl.
2	Polyflex Advanced PU		
1	Polymerbeton		
	Benennung	Abmessung	Material
	Stückliste		

Prüfung:		Gewicht:		Härte:	
Material:	-	-	-	-	-
Prüfzeugnis:	-	-	-	-	-
Bezeichnung: PA90 Polyflex Advanced PU Straße <small>Ungefärgt Polymerbeton</small>					

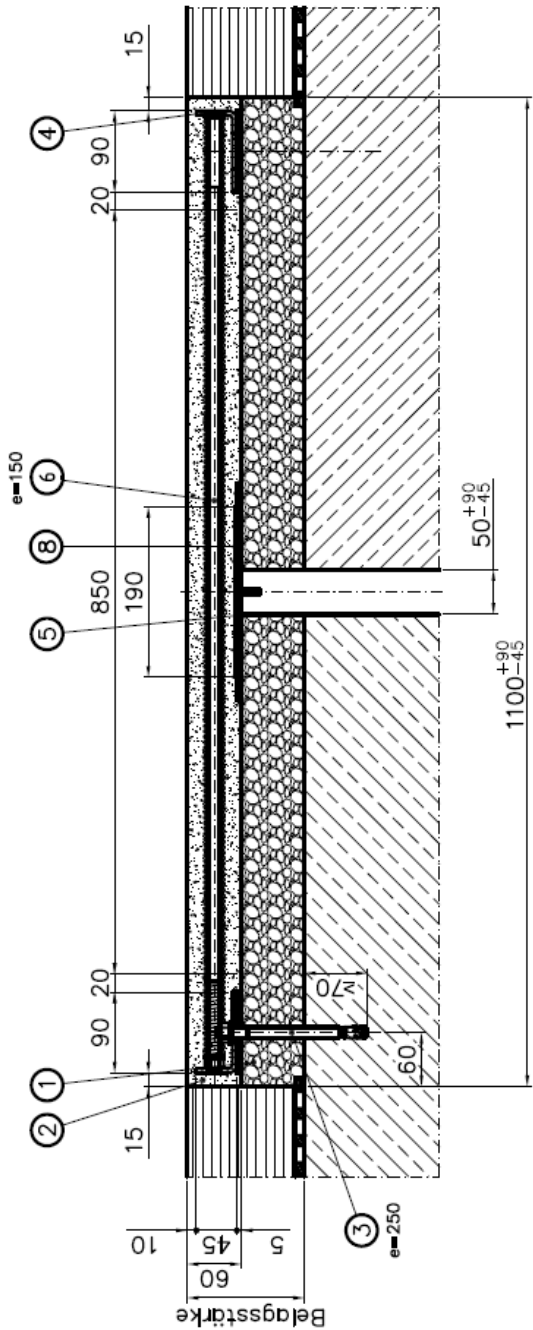
Regelzeichnung	
Znr.:	9346-1
Name	
Datum	
gezt.:	Ln 24.04.12
gepr.:	UM 24.04.12
Zulassungszeichnung	

	ISO 9001
Maßstab:	1:5

POLYFLEX®
 Advanced PU

Annex 1.6 of European technical approval ETA-12/0260
 Standard cross-section type PA90

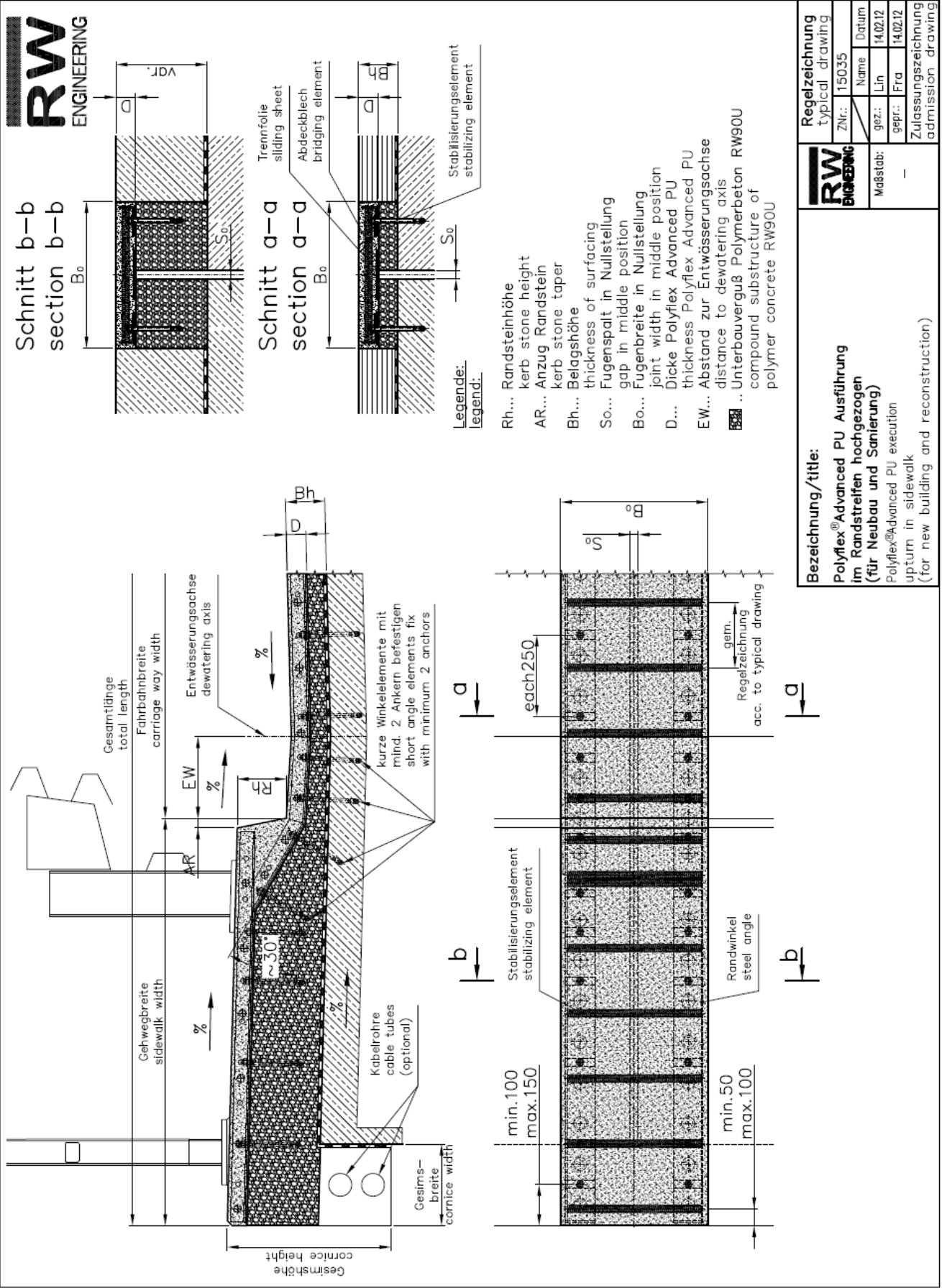
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Pos.	Benennung	Abmessung	Material
8	Trennfolie	850x1,5	EPDM
6	Stabilisierungselement		kompl.
5	Fugenabdeckblech	190x6	szsax TN
4	Blechwinkel (RZNr.: 9581)	90x45x5	szsax TN
3	Durchsteckanker	M12x...	kompl.
2	Polyflex Advanced PU		
1	Polymerbeton		
Stückliste			

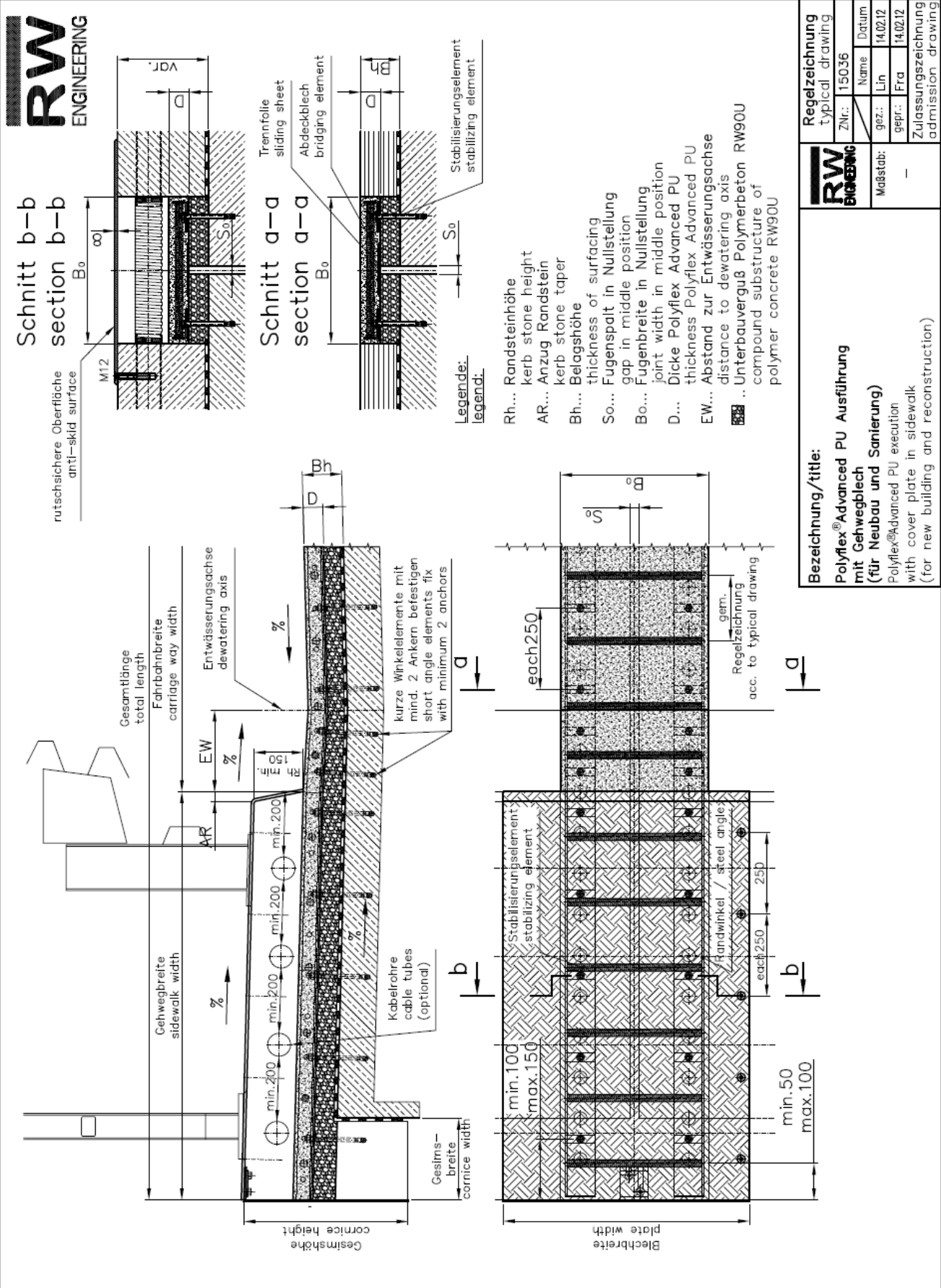
Prüfung:		Regelzeichnung	
		Z.Nr.: 9342-1	Name Datum
Material:	-	gez.: UIM	21.04.12
Prüfzeugnis:	-	gepr.: UIM	21.04.12
Bezeichnung: PA135 Polyflex Advanced PU StraÙe Untere Polymerbeton		Maßstab:	1:5
		Zulassungszeichnung	

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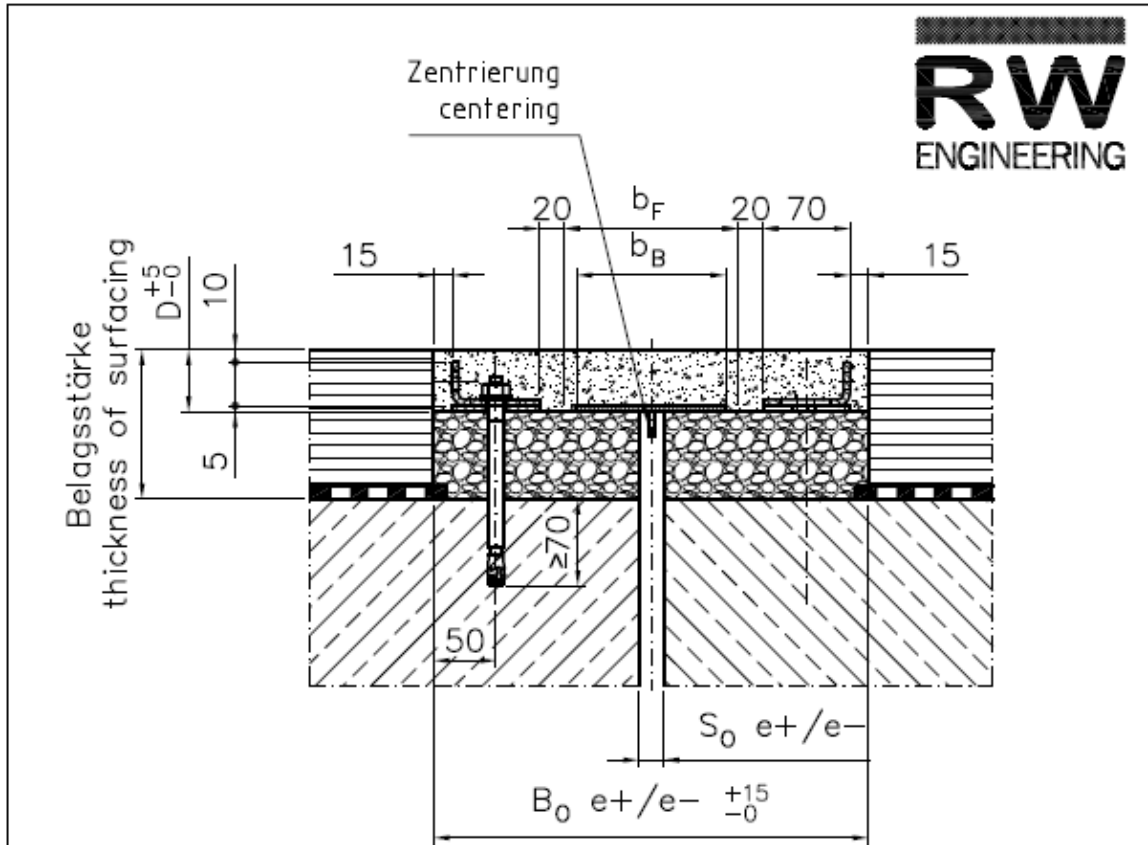


POLYFLEX® Advanced PU **Annex 1.8 of European technical approval ETA-12/0260**
 Execution upturn in sidewalk

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POLYFLEX® Advanced PU **Annex 1.9 of European technical approval ETA-12/0260**
 Execution with cover plate in sidewalk



	PA15	PA30
Dehnweg gesamt e [mm] total movement e [mm]	15	30
Dehnweg Zug e+ [mm] movement tension e+ [mm]	10	20
Dehnweg Druck e- [mm] movement compression e- [mm]	5	10
Dicke D [mm] thickness D [mm]	40	50
Fugenbreite in Nullstellung B0 [mm] joint width in middle position B0 [mm]	280	350
Fugenspalt in Nullstellung S0 [mm] gap at middle position S0 [mm]	20	20
Breite Abdeckblech bB [mm] bridging element width bB [mm]	70	120
Breite Trennfolie bF [mm] sliding sheet width bF [mm]	-	140
Randwinkel [mm] steel angle [mm]	70x25x5	70x35x5

Bezeichnung: Polyflex Advanced PU Straße Regelquerschnitt PA15/PA30 lagegesichertes Abdeckblech		Regelzeichnung typical drawing	
		drw.no.: 15104-1	name date
Title: Polyflex Advanced PU road typical cross section PA15/PA30 restrained bridging element	scale: 1:5	dr.: Sc 19.03.12	date
		c+c: UM 19.03.12	date
		admission drawing	

