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## European Technical Assessment

## ETA- 06/0272 of 21/11/2016

English translation prepared by CSTB - Original version in French language

### General Part

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

Nom commercial  
*Trade name*

**edilon)(sedra Dex-R 2K**

Famille de produit  
*Product family*

Cheville à scellement pour fixation dans le béton non fissuré :  
diamètres M12, M16, M20, M24 et M30.

**Bonded anchor for use in non cracked concrete: sizes M12,  
M16, M20, M24 and M30.**

Titulaire  
*Manufacturer*

**edilon)(sedra bv  
P.O. Box 1000  
2003 RZ Haarlem  
The Netherlands**

Usine de fabrication  
*Manufacturing plant*

**edilon)(sedra bv  
P.O. Box 1000  
2003 RZ Haarlem  
The Netherlands**

Cette évaluation contient:  
*This Assessment contains*

15 pages incluant 12 annexes qui font partie intégrante de  
cette évaluation  
*15 pages including 12 annexes which form an integral part of  
this assessment*

Base de l'ETE  
*Basis of ETA*

ETAG 001, Version April 2013, utilisée en tant que EAD  
*ETAG 001, Edition April 2013 used as EAD*

Cette évaluation remplace:  
*This Assessment replaces*

ETA-06/0272 valable du 24/10/2011 au 24/10/2016  
ETA-06/0272 with validity from 24/10/2011 to 24/10/2016

## 1 Technical description of the product

The injection adhesive system edilon)(sedra Dex®-R 2K is a bonded anchor (injection type) consisting of an injection adhesive cartridge using a dispensing applicator equipped with a special mixing nozzle and a steel element (anchor rod).

The steel element are threaded rods made of zinc plated carbon steel, stainless steel, or high corrosion resistant stainless steel.

The steel element is placed into a diamond core drilled hole filled with the injection mortar and is anchored via the bond between the metal part and concrete.

The illustration and the description of the product are given in Annexes A.

## 2 Specification of the intended use

The performances given in Section 3 are only valid if the anchor is used in compliance with the specifications and conditions given in Annexes B. The provisions made in this European technical assessment are based on an assumed working life of the anchor of 50 years. The indications given on the working life cannot be interpreted as a guarantee given by the producer, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

## 3 Performance of the product

### 3.1 Mechanical resistance and stability (BWR 1)

Essential characteristic	Performance
Characteristic resistance for static and quasi static loads, Displacements	See Annex C1 to C4

### 3.2 Safety in case of fire (BWR 2)

Essential characteristic	Performance
Reaction to fire	Anchorage satisfy requirements for Class A1
Resistance to fire	No performance determined (NPD)

### 3.3 Hygiene, health and the environment (BWR 3)

Regarding dangerous substances contained in this European Technical Assessment, there may be requirements applicable to the products falling within its scope (e.g. transposed European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the Construction Products Directive, these requirements need also to be complied with, when and where they apply.

**3.4 Safety in use (BWR 4)**

For Basic requirement Safety in use the same criteria are valid as for Basic Requirement Mechanical Resistance and Stability.

**3.5 Protection against noise (BWR 5)**

Not relevant.

**3.6 Energy economy and heat retention (BWR 6)**

Not relevant.

**3.7 Sustainable use of natural resources (BWR 7)**

No performance assessed.

**3.8 General aspects relating to fitness for use**

Durability and Serviceability are only ensured if the specifications of intended use according to Annex B1 are kept.

**4 Assessment and Verification of Constancy of Performance (AVCP)**

According to the Decision 96/582/EC of the European Commission<sup>1</sup>, as amended, the system of assessment and verification of constancy of performance (see Annex V to Regulation (EU) No 305/2011) given in the following table apply.

Product	Intended use	Level or class	System
Metal anchors for use in concrete	For fixing and/or supporting to concrete, structural elements (which contributes to the stability of the works) or heavy units	—	1

**5 Technical details necessary for the implementation of the AVCP system**

Technical details necessary for the implementation of the Assessment and verification of constancy of performance (AVCP) system are laid down in the control plan deposited at Centre Scientifique et Technique du Bâtiment.

The manufacturer shall, on the basis of a contract, involve a notified body approved in the field of anchors for issuing the certificate of conformity CE based on the control plan.

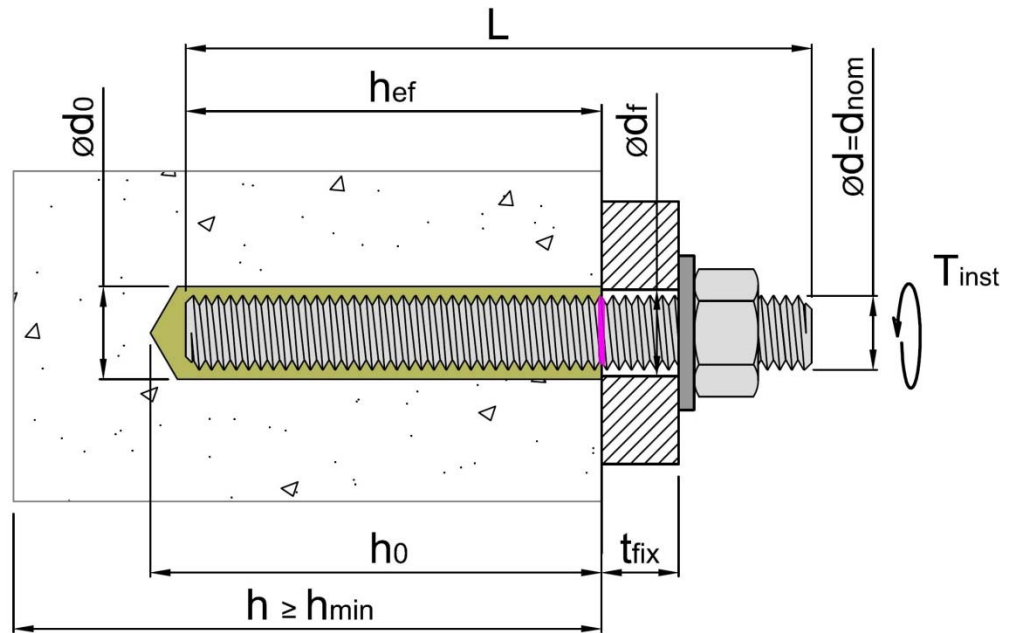
Issued in Marne La Vallée on 25/10/2016 by  
Charles Baloché  
Directeur technique

*The original French version is signed*

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<sup>1</sup> Official Journal of the European Communities L 254 of 08.10.1996

**Installation:**



- Ødo = nominal diameter of bore hole
- Ød = diameter of anchor bolt or thread diameter
- Ødf = diameter of clearance hole in the fixture
- hef = effective anchorage depth
- ho = depth of cylindrical drill hole
- hmin = minimum thickness of concrete member
- h = thickness of concrete member
- L = anchor length
- tfix = thickness of fixture
- Tinst = required or maximum recommended setting torque

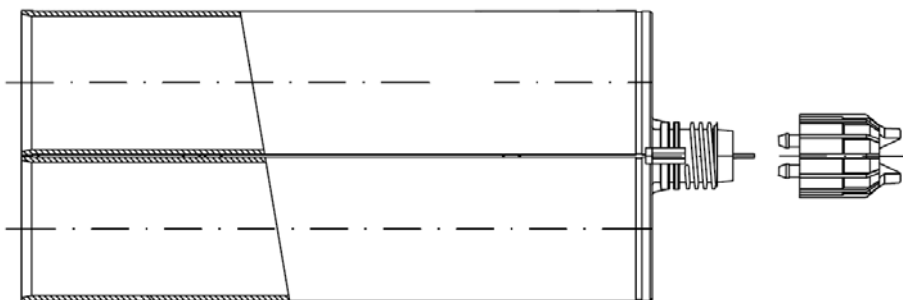
**Injection adhesive system edilon)(sedra Dex<sup>®</sup>-R 2K for concrete**

**Product description**  
 Installed condition

**Annex A 1**

**Injection adhesive cartridge :**

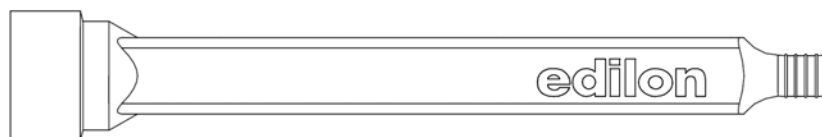
**2 component side by side cartridge :**  
 (600 ml)



**Marking on the adhesive cartridge :**

- Identifying mark of the producer,
- Product name: edilon)(sedra Dex®-R 2K
- Charge code number
- Storage life, curing and processing time
- Hazard and Precautionary statements

**Special static mixing nozzle :**

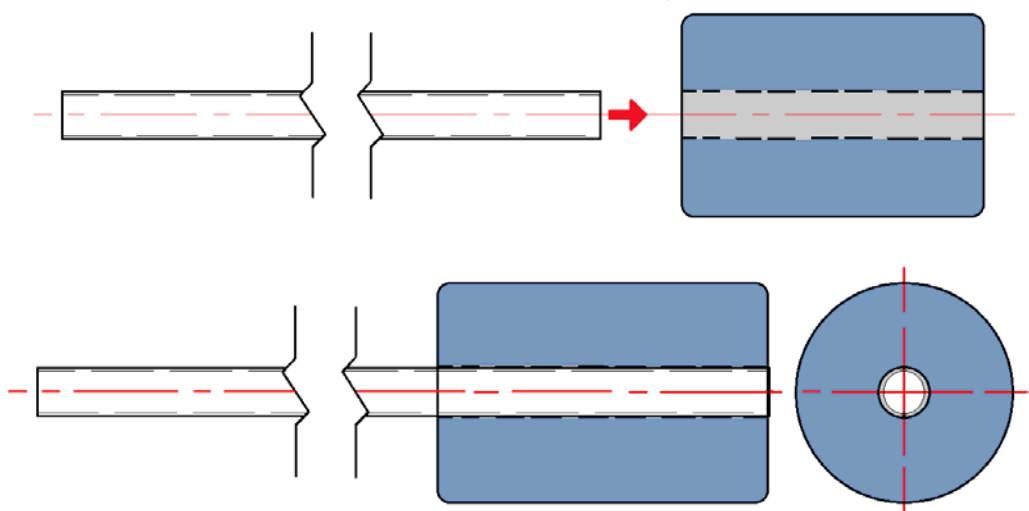


**Extension tube :**

- variable length from 300mm up to 2000mm

**Adhesive stopper :**

- nominal diameter according to the nominal diameter of the drilled hole

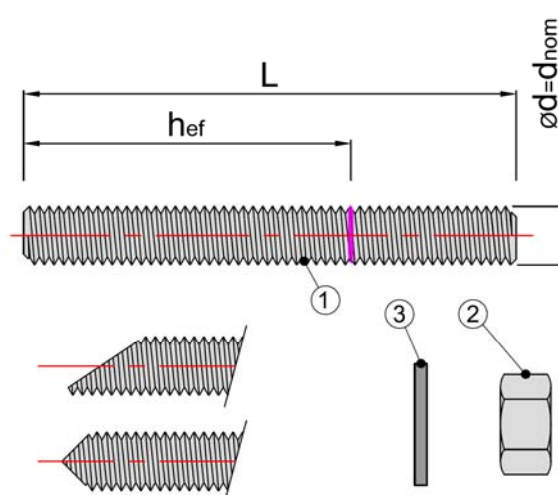


**Injection system edilon)(sedra Dex®-R 2K for concrete**

**Product description**  
 Injection system

**Annex A 2**

**Threaded rod M12, M16, M20, M24, M30 with washer and hexagon nut**



Commercial standard threaded rods with:

mechanical properties by inspection certificate 3.1 according to EN-10204 2004; the documents shall be stored.

In the case of galvanized steel rods - standard rods with property class ≤ 8.8 only.

Note: Commercial standard threaded rods made of galvanized steel with property class above 8.8 are not permitted in some Member States.

**Table A1: Threaded rod properties**

Part	Designation	Material and EN / ISO reference
<b>Carbon Steel</b> , Zinc electroplated coating ≥ 5 µm acc. EN-ISO 4042:1999		
<b>Carbon Steel</b> , Hot dip galvanized coating ≥ 40 µm acc. EN-ISO 1461:2009 and EN-ISO 10684:2004+AC:2009		
1.	Threaded rod M12 to M30	<b>Carbon Steel</b> , according to EN 10087:1998 or EN 10263:2001 grade 4.6, 5.8, 8.8, 10.9 and 12.9 acc. to EN-ISO 898-1:2013
2.	Hexagon nut M12 to M30	EN-ISO 4032:2012, Carbon steel according to threaded rod grade 6 to 10 according to EN-ISO 898-2:2012
3.	Washer	EN-ISO 887:2006, EN-ISO 7089:2000 up to EN-ISO 7094:2000, Steel according to threaded rod
<b>Stainless Steel</b>		
1.	Threaded rod M12 to M30	<b>Stainless Steel</b> , 1.4401, 1.4404 or 1.4571 according to EN 10088:2005 grade A4-70 or A4-80, according to EN-ISO 3506-1:2009
2.	Hexagon nut M12 to M30	EN-ISO 4032:2012, Stainless steel according to threaded rod grade A4-70, A4-80, according to EN-ISO 3506-2:2009
3.	Washer	EN-ISO 887:2006, EN-ISO 7089:2000 up to EN-ISO 7094:2000, Stainless steel according to threaded rod
<b>High corrosion resistant Stainless Steel</b>		
1.	Threaded rod M12 to M30	<b>High corrosion resistant Stainless Steel</b> , 1.4529, 1.4547, 1.4565 according to EN 10088:2005 grade 70, according to EN-ISO 3506-1:2009
2.	Hexagon nut M12 to M30	EN-ISO 4032:2012, Stainless steel according to threaded rod grade 70, according to EN-ISO 3506-2
3.	Washer	EN-ISO 887:2006, EN-ISO 7089:2000 up to EN-ISO 7094:2000, Stainless steel according to threaded rod

Injection system edilon)(sedra Dex<sup>®</sup>-R 2K for concrete

**Product description**

Threaded rod dimensions, types and materials

**Annex A 3**

## Specification of intended use

### Anchorage subject to:

- Static and quasi static loading.

### Base material:

- Reinforced or unreinforced normal weight concrete according to EN 206:2013.
- Strength classes C20/25 to C50/60 according to EN 206:2013.
- Non-cracked concrete only

### Temperature in the base material:

#### - At installation

+5 °C to +35 °C

#### - In-service

Temperature range I: -40 °C to +40 °C

(max. long term temperature +24 °C and max. short term temperature +40 °C)

### Use conditions (Environmental conditions):

- Structures subject to dry internal conditions

(zinc coated steel, stainless steel or high corrosion resistant steel).

- Structures subject to external atmospheric exposure (including industrial and marine environment) and to permanently damp internal conditions, if no particular aggressive conditions exist

(stainless steel or high corrosion resistant steel).

- Structures subject to external atmospheric exposure and to permanently damp internal conditions, if other particular aggressive conditions exist

(high corrosion resistant steel).

*Note: Particular aggressive conditions are e.g. permanent, alternating immersion in seawater or the splash zone of seawater, chloride atmosphere of indoor swimming pools or atmosphere with extreme chemical pollution*

*(e.g. in desulphurization plants or road tunnels where de-icing products are used).*

### Design:

- Anchorages are designed under the responsibility of an engineer experienced in anchorages and concrete work.
- Verifiable calculation notes and drawings are prepared taking account of the loads to be anchored. The position of the anchor is indicated on the design drawings (e. g. position of the anchor relative to reinforcement or to supports, etc.).

- Anchorages under static or quasi-static loading are designed in accordance with:

EOTA Technical Report TR 029, 09/2010"

EN 1992-4

### Installation:

Use category:

- Dry or wet concrete or installation in flooded holes:

Drilling technique:

- Diamond coring,
- Diamond coring followed by roughening with carbide drill bit when the concrete compressive strength is > C20/25.

Overhead installation is permissible.

Anchor installation carried out by appropriately qualified personnel and under the supervision of the person responsible for technical matters of the site.

Injection system edilon)(sedra Dex<sup>®</sup>-R 2K for concrete

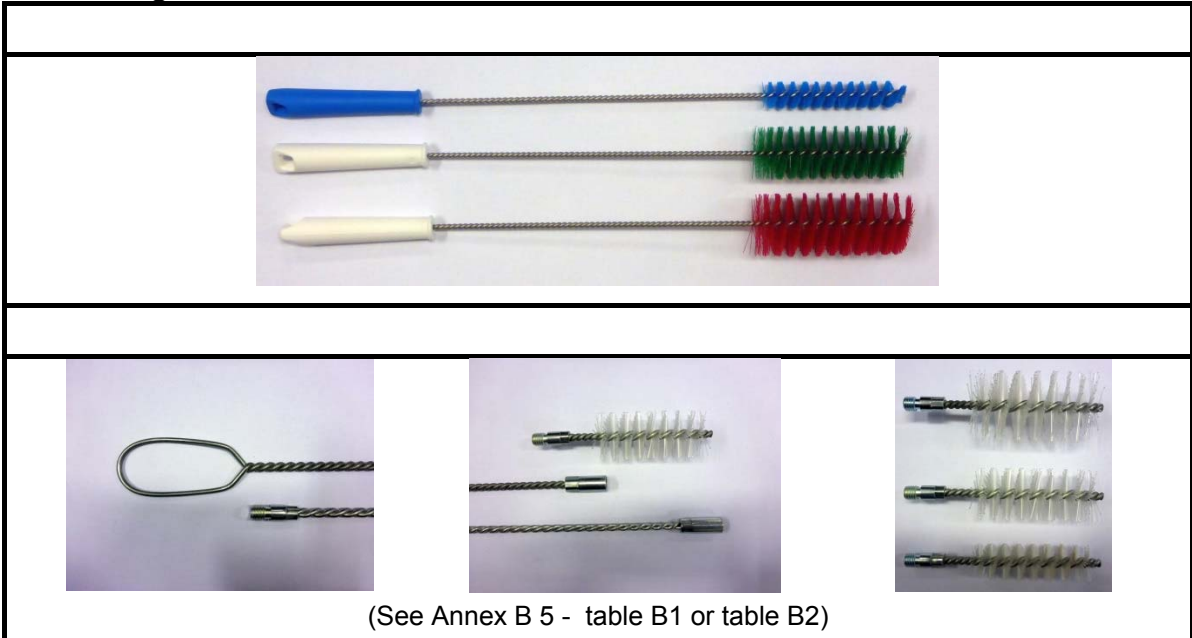
Intended use  
Specification

Annex B 1

**Dispensing applicators :**



**Polymer cleaning brushes :**



**Injection system edilon)(sedra Dex<sup>®</sup>-R 2K for concrete**

**Intended use**

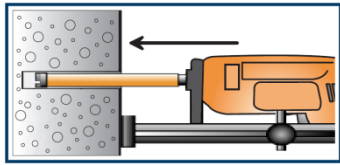
Dispensing applicators  
 Cleaning brushes

**Annex B 2**

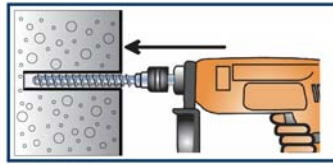


**Installation instructions :**

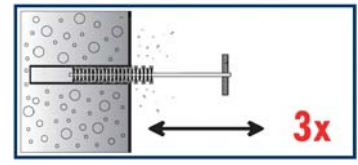
- 1a Drill the hole to the correct diameter and depth using a diamond core drill machine according to the building specifications or building engineer.
- 1b If  $f_c > C20/25$  roughen the hole using a drill bit to the correct diameter and a rotary percussive drill machine according to Table B1.



1a



1b

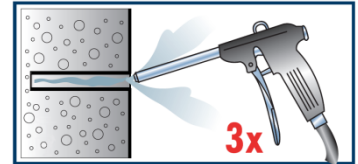


2

- 2 Rinse hole first thoroughly and then use a polymer brush to empty the hole. Thoroughly clean the hole using a polymer cleaning brush with the required extensions in the following sequence:

**Brush clean x3.**  
**Blow clean x3.**

- 3 Using compressed air nozzle (min. 6 bar) with the required extensions. Start at the bottom of the hole. Blow out until no dust is coming out. Use oil free compressed air.



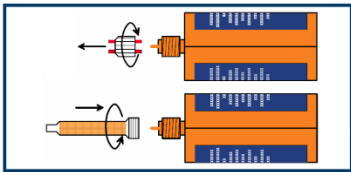
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- 4 **Precautionary statements:**  
 Wear protective clothing, wear eye protection and wear protective gloves.  
 Extract dust when drilling in concrete with rotary percussive drill machines and extract dust during blow cleaning.

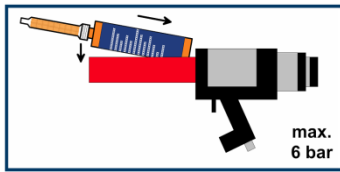


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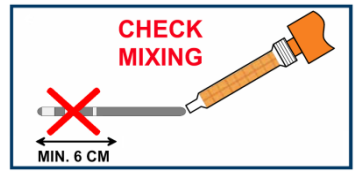
- 5 Remove cap from cartridge. Mount static mixing nozzle onto the mouth of the cartridge.
- 6 Place cartridge carefully and horizontally in a clean and good quality manual-, pneumatic- or battery operated dispensing applicator (gun).



5

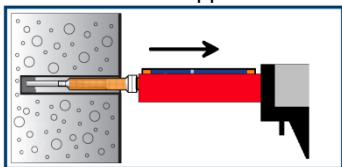


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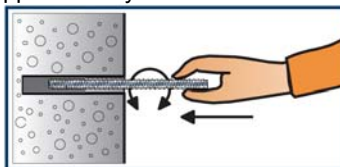


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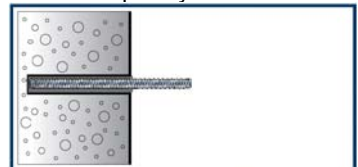
- 7 Extrude the first part of the cartridge to waste until an even colour has been achieved without streaking in the resin. (homogeneous grey colour) If needed, cut the extension tube to the depth of the hole and push onto the end of the mixing nozzle and fit the correct adhesive stopper to the other end. For overhead installation see Annex B4.
- 8 Insert the static mixing nozzle (or the extension tube for holes deeper than 320mm) to the bottom of the hole. Begin to extrude the adhesive, while slowly withdrawing the mixing nozzle as the hole fills with adhesive. Ensure that no air voids are entrapped. Fill the hole to approximately  $\frac{1}{2}$  to  $\frac{3}{4}$  full and withdraw the nozzle completely.



8



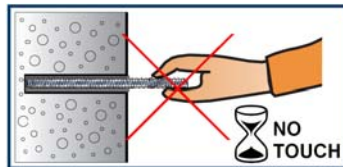
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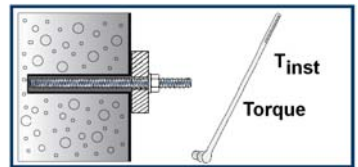
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- 9 Insert the clean threaded rod or rebar, free from oil or other contaminants, slowly to the bottom of the hole using a back and forth twisting motion ensuring all the threads are thoroughly coated. Adjust to the correct position within the stated processing time. For overhead installation the anchor should be fixed (e.g. wooden wedges).
- 10 Excess adhesive will be expelled from the hole evenly around the steel element showing that the hole is full. Remove this surplus amount of adhesive around the mouth of the hole before it sets.

- 11 Leave the anchor undisturbed to cure, and do not load the anchor until the curing time has elapsed.



11



12

- 12 Mount after each other: building part, washer and nut with the specified installation torque. **Do not overtighten.**

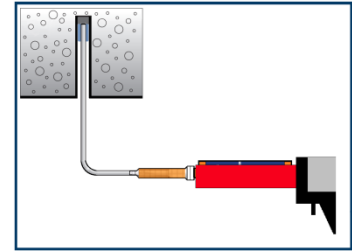
**Injection system edilon)(sedra Dex<sup>®</sup>-R 2K for concrete**

**Intended use**  
 Installation instruction

**Annex B 3**

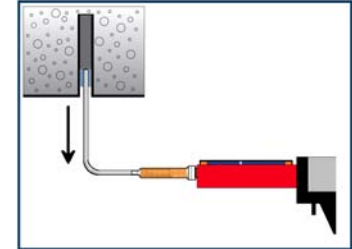
**Overhead installation instruction :**

80 Start injection Insert the static mixing nozzle with the extension tube and the appropriate adhesive stopper to the bottom of the hole. Begin to extrude the adhesive.



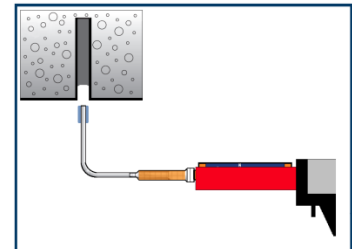
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Injection phase As the hole fills with adhesive the adhesive stopper will be slowly pushed out of the hole.



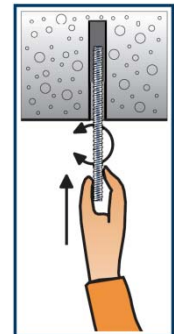
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End injection Fill the hole to approximately 1/2 to 3/4 full and withdraw the extension tube with the adhesive stopper completely.



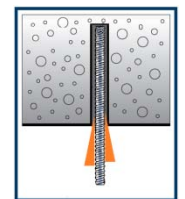
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90 Start installation Immediately insert the clean threaded rod or rebar, free from oil or other contaminants, slowly to the bottom of the hole using a back and forth twisting motion ensuring all the threads are thoroughly coated. Adjust to the correct position within the stated processing time.



90

100 End installation Fix the anchor to avoid slipping of the anchor during the curing time. Use a temporary interlocking element (e.g. wooden wedges).



100

**Assembled mixing nozzle, extension tube and adhesive stopper :**



<p><b>Injection system edilon)(sedra Dex<sup>®</sup>-R 2K for concrete</b></p>	<p><b>Annex B 4</b></p>
<p><b>Intended use</b>                  Overhead installation procedure</p>	

**Table B1: Installation parameters for threaded rod**

Anchor size		M12	M16	M20	M24	M30	
Nominal drill hole diameter with diamond coring	$\varnothing d_0$ [mm] =	16	20	24	28	34	
Nominal diameter of the drill bit used for roughening when $f_c > C20/25$	$\varnothing d_0$ [mm] =	18	22	25	30	35	
Effective anchorage depth	$h_{ef, min}$ [mm] =	60	80	100	120	150	
	$h_{ef, max}$ [mm] =	240	320	400	480	600	
Depth of cylindrical drill hole	$h_0$ [mm] =	$h_{ef} + 5 \text{ mm}$					
Minimum thickness of concrete member	$h_{min}$ [mm] =	*)	$h_{ef} + 2d_0$				
Diameter of clearance hole in the fixture	$\varnothing d_{fix}$ [mm] =	14	18	22	26	33	
Thickness of fixture	$t_{fix, min}$ [mm] >	0					
	$t_{fix, max}$ [mm] <	1500					
Diameter of polymer brush	$\varnothing d_b$ [mm] =	20	20	40	40	40	
Tightening torque	Grade 4.6 to 5.8	$T_{inst}$ [Nm] ≤	20	50	100	170	300
	Grade 8.8 to 10.9	$T_{inst}$ [Nm] ≤	40	100	180	300	500
	Stainless steel	$T_{inst}$ [Nm] ≤	40	100	180	300	350
Minimum spacing	$s_{min}$ [mm] =	50	65	80	95	120	
Minimum edge distance	$c_{min}$ [mm] =	50	60	80	95	120	

\*)  $h_{ef} + 30 \text{ mm}; \geq 100 \text{ mm}$

**Table B2: Cleaning**

<b>All diameters</b>
Brush clean x3
Blow clean x3

**Table B3: Processing time and minimum curing time**

edilon)(sedra Dex <sup>®</sup> -R 2K <sup>1)</sup>		
Concrete temperature	Processing time $t_{work}$	Minimum curing time <sup>2)</sup> $t_{cure}$ <sup>3)</sup>
+5 to +9 °C	30 min	48 h
+10 to +19 °C	20 min	24 h
+20 to +35 °C	5 min	24 h

1) the adhesive cartridge temperature must be between +5°C and +25°C during injection  
 2) the minimum time from the end of the mixing to the time when the anchor may be torqued or loaded (whichever is longer)  
 3) minimum curing time for dry or wet and flooded hole conditions.

**Injection system edilon)(sedra Dex<sup>®</sup>-R 2K for concrete**

**Intended use**

Installation parameters, processing time and curing time

**Annex B 5**

**Table C1: Characteristic values of resistance for threaded rods under tension loads**

edilon)(sedra Dex®-R 2K with threaded rods			M12	M16	M20	M24	M30
<b>Steel failure</b>							
Char. resistance steel 4.6	$N_{Rk,s}$	[kN]	34	63	98	141	224
Partial safety factor	$\gamma_{Ms,N}$	[-]	2,0				
Char. resistance steel 5.6	$N_{Rk,s}$	[kN]	42	78	122	176	280
Partial safety factor	$\gamma_{Ms,N}$	[-]	2,0				
Char. resistance steel 5.8	$N_{Rk,s}$	[kN]	44	82	127	184	292
Partial safety factor	$\gamma_{Ms,N}$	[-]	1,5				
Char. resistance steel 8.8	$N_{Rk,s}$	[kN]	67	126	196	282	449
Partial safety factor	$\gamma_{Ms,N}$	[-]	1,5				
Char. resistance steel 9.8	$N_{Rk,s}$	[kN]	76	141	220	318	505
Partial safety factor	$\gamma_{Ms,N}$	[-]	1,5				
Char. resistance steel 10.9	$N_{Rk,s}$	[kN]	88	163	255	367	583
Partial safety factor	$\gamma_{Ms,N}$	[-]	1,4				
Char. resistance steel A4-70	$N_{Rk,s}$	[kN]	59	110	171	247	393
Partial safety factor	$\gamma_{Ms,N}$	[-]	1,87				
Char. resistance steel A4-80	$N_{Rk,s}$	[kN]	67	126	196	282	449
Partial safety factor	$\gamma_{Ms,N}$	[-]	1,6				
Char. resistance steel -HCR	$N_{Rk,s}$	[kN]	59	110	171	247	393
Partial safety factor	$\gamma_{Ms,N}$	[-]	1,87				

**Injection system edilon)(sedra Dex®-R 2K**

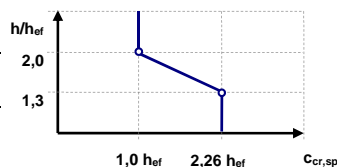
**Performances**

Characteristic values of resistance under tension loads  
 Design acc. "EOTA Technical Report TR 029, 09/2010" or "EN 1992-4"

**Annex C1**

**Table C1: Continued**

edilon)(sedra Dex®-R 2K with threaded rods			M12	M16	M20	M24	M30
<b>Combined pullout and concrete cone failure</b>							
Characteristic bond resistance in non-cracked concrete C20/25							
Temp. range I: -40°C/+40°C	$\tau_{RK,ucr}$	[N/mm <sup>2</sup> ]	10.0	9.0	7.5	7.0	6.5
Installation safety factor	$\gamma_2^{(1)} = \gamma_{inst}^{(2)}$	[-]	1,0				
Increasing factors for $\tau_{RK}$	$\psi_c$	C30/37	1,14				
		C40/50	1,26				
		C50/60	1,33				
<b>Concrete cone failure</b>							
Factor acc. to section 5.2.2.4 to TR029	$k_1^{(1)}$	[-]	10,1				
Factor acc. to section 7.2.1.4 to EN 1992-4	$k_{uncl}^{(2)}$	[-]	11,0				
Edge distance	$c_{cr,N}$	[mm]	1,5 · hef				
Spacing	$s_{cr,N}$	[mm]	3,0 · hef				
<b>Splitting failure</b>							
Edge distance $c_{cr,sp}$ [mm] for	$h / h_{ef} \geq 2,0$		$1,0 \cdot h_{ef}$				
	$2,0 > h / h_{ef} > 1,3$		$4,6 h_{ef} - 1,8 h$				
	$h / h_{ef} \leq 1,3$		$2,26 h_{ef}$				
Spacing	$s_{cr,sp}$	[mm]	$2 \times c_{cr,sp}$				



- 1) Parameter for design according to EOTA Technical Report TR 029.
- 2) Parameter for design according to EN 1992-4.

**Injection system edilon)(sedra Dex®-R 2K**

**Performances**

Characteristic values of resistance under tension loads  
 Design acc. "EOTA Technical Report TR 029, 09/2010" or "EN 1992-4"

**Annex C2**

**Table C2: Characteristic values of resistance for threaded rods under shear loads**

edilon)(sedra Dex®-R 2K with threaded rods		M12	M16	M20	M24	M30
<b>Partial safety factor</b>						
Steel failure grade 4.6	$\gamma_{Ms}$ [-]			1,67		
Steel failure grade 5.6	$\gamma_{Ms}$ [-]			1,67		
Steel failure grade 5.8	$\gamma_{Ms}$ [-]			1,50		
Steel failure grade 8.8	$\gamma_{Ms}$ [-]			1,25		
Steel failure grade 9.8	$\gamma_{Ms}$ [-]			1,50		
Steel failure grade 10.9	$\gamma_{Ms}$ [-]			1,50		
Steel failure grade A4-70	$\gamma_{Ms}$ [-]			1,56		
Steel failure grade A4-80	$\gamma_{Ms}$ [-]			1,33		
Steel failure grade HCR	$\gamma_{Ms}$ [-]			1,56		
<b>Steel failure without lever arm</b>						
Factor according to section 7.2.2.3.1 of EN1992-4 For steel grade 4.6	$k_6^{2)}$ [-]			0,6		
Factor according to section 7.2.2.3.1 of EN1992-4 For steel grade 5.6,5.8, 8.8, 9.8,10.9, A4-70, A4-80 et HCR	$k_6^{2)}$ [-]			0,5		
Factor according to section section 7.2.2.3.1 of EN 1992-4	$k_7^{2)}$ [-]			1,0		
Characteristic resistance acc. EN 1992-4	$V_{RK,s}^0$ [kN]			$k_6 \cdot A_s \cdot f_{uk}$		
Characteristic resistance acc. TR 029	$V_{RK,s}^0$ [kN]			$0,5 \cdot A_s \cdot f_{uk}$		
<b>Steel failure with lever arm</b>						
Char. resistance	$M_{RK,s}^0$ [Nm]			$1,2 \cdot W_{el} \cdot f_{uk}$		
<b>Concrete pry-out failure</b>						
Factor in equation (5.7) of TR029 or acc. to section 7.2.2.4 of EN 1992-4	$k^{1)} = k_8^{2)}$ [-]			2,0		
<b>Concrete edge failure</b>						
See section 5.2.3.4 of TR 029 « Design of bonded anchors » Or See section 7.2.2.5 of EN1992-4						

<sup>1)</sup> Parameter for design according to "EOTA Technical Report TR 029".

<sup>2)</sup> Parameter for design according to EN 1992-4.

**Injection system edilon)(sedra Dex®-R 2K**

**Performances**

Characteristic values of resistance under shear loads

Design acc. "EOTA Technical Report TR 029, 09/2010" or "EN 1992-4"

**Annex C3**

**Table C3: Displacement under tension load in mm/(N/mm<sup>2</sup>)**

edilon)(sedra Dex®-R 2K with threaded rods		M12	M16	M20	M24	M30
<b>Non-cracked concrete</b>						
Displacement	$\delta_{N0}$ [mm/(N/mm <sup>2</sup> )]	0.10	0.10	0.13	0.12	0.13
Displacement	$\delta_{N\infty}$ [mm/(N/mm <sup>2</sup> )]	0.14	0.14	0.19	0.19	0.19

**Table C4: Displacement under shear load in mm/kN**

edilon)(sedra Dex®-R 2K with threaded rods		M12	M16	M20	M24	M30
Displacement	$\delta_{V0}$ [mm/kN]	0.29	0.15	0.10	0.07	0.04
Displacement	$\delta_{V\infty}$ [mm/kN]	0.57	0.31	0.19	0.13	0.08

Injection system edilon)(sedra Dex®-R 2K

**Performances**

Displacements

Design acc. "EOTA Technical Report TR 029, 09/2010" or "EN 1992-4"

**Annex C4**