BUILDING TRUST

Sika AnchorFix®-3030

Declaration of performance
No 62770367

1	**Unique identification code of the product-type:**	62770367
2	**Intended use/es:**	Post-installed rebar connections with Sika AnchorFix®-3030 injection mortar
3	**Manufacturer:**	Sika Services AG Tüffenwies 16 8064 Zurich Switzerland
5	**System/s of AVCP:**	System 1
6b	**European assessment document:**	EAD 330087-01-0601 Systems for post-installed rebar connections with mortar December 2020
	European Technical Assessment:	ETA 17/0693 of 06/05/2024
	Technical Assessment Body:	TECHNICKY A ZKUSEBNI USTAV STAVEBNI PRAHA s.p.
	Notified body/ies:	1020

7 Declared performance/s:

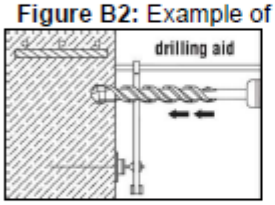
Essential Characteristics	Performance	AVCP	Harmonised Technical Specification
Reaction to fire	Class A1	System 1	EAD 330087-01-0601
Resistance to fire	See Annex C4	System 1	
Characteristic resistance under static and quasi-static loading			
Bond strength of post-installed rebar	See Annex C1, C2	System 1	
Reduction factor	See Annex C1, C2	System 1	
Amplification factor for minimum anchorage length	See Annex C1, C2	System 1	
Characteristic resistance under seismic loading			
Bond strength under seismic loading	See Annex C3	System 1	
Seismic bond efficiency factor	See Annex C3	System 1	
Minimum concrete cover under seismic loading	See Annex B3	System 1	

Table B1: Minimum concrete cover c_{min} depending on drilling method

Drilling method	Bar diameter ϕ	Without drilling aid c_{min}	With drilling aid c_{min}
Hammer drilling or dustless drilling or diamond drilling	< 25 mm	30 mm + 0,06 $\ell_v \geq 2\,\phi$	30 mm + 0,02 $\ell_v \geq 2\,\phi$
	≥ 25 mm	40 mm + 0,06 $\ell_v \geq 2\,\phi$	40 mm + 0,02 $\ell_v \geq 2\,\phi$
Compressed air drilling	< 25 mm	50 mm + 0,08 ℓ_v	50 mm + 0,02 ℓ_v
	≥ 25 mm	60 mm + 0,08 $\ell_v \geq 2\,\phi$	60 mm + 0,02 $\ell_v \geq 2\,\phi$

The minimum concrete cover according to EN 1992-1-1 shall be observed. For rebar under seismic loading, apply the same minimum concrete value following that of table B1 and $c_{min,seis} = 2\,\phi$.

Figure B2: Example of drilling aid



Minimum anchorage length $\ell_{bd,PIR}$ and minimum anchorage lap length $\ell_{0,PIR}$

Minimum anchorage length

$\ell_{b,PIR} = \alpha_{lb} \cdot \ell_{b,min}$

$\alpha_{lb} = \alpha_{lb,100y}$ = amplification factor for minimum anchorage length
(see Annex C 1, Table C2 for hammer or dustless drilling method)
(see Annex C 2, Table C4 for diamond core drilling method)

$\ell_{b,min}$ = minimum anchorage length of cast-in rebar according to EN 1992-1-1, eq. 8.6

Minimum lap length

$\ell_{0,PIR} = \alpha_{lb} \cdot \ell_{0,min}$

$\alpha_{lb} = \alpha_{lb,100y}$ = amplification factor for minimum anchorage length
(see Annex C 1, Table C2 for hammer or dustless drilling method)
(see Annex C 2, Table C4 for diamond core drilling method)

$\ell_{b,min}$ = minimum lap length of cast-in rebar according to EN 1992-1-1, eq. 8.11

Table B2: Drilling diameter and maximum anchorage depth

Rebar diameter d_{nom} [1)]	Nominal drilling diameter d_{cut}	Max permissible embedment depth ℓ_v
[mm]	[mm]	[mm]
8	12	400
10	14	500
12	16	600
14	18	700
16	20	800
18	22	900
20	25	1000
22	28	1000
24	32	1000
25	32	1000
26	32	1000
28	35	1000
32	40	1000
40	55	1000

[1)] The maximum outer rebar diameter over the ribs shall be: nominal diameter of the bar d_{nom} + 0,20 d_{nom}

Sika AnchorFix®-3030 for rebar connection	
Intended use Minimum concrete cover Minimum anchorage length Maximum embedment length	**Annex B 3**

Design bond strength of post-installed rebar $f_{bd,PIR}$ and $f_{bd,PIR,100y}$ under static loading for working life 50 and 100 years for hammer or dustless drilling

$f_{bd,PIR} = k_b \cdot f_{bd}$
k_b = reduction factor
f_{bd} = design bond strength of cast-in rebar according to EN 1992-1-1

Table C1: Values of the design bond strength of post installed rebar $f_{bd,PIR} = f_{bd,PIR,100y}$ with reduction factor $k_b = k_{b,100y}$ for hammer or dustless drilling methods for good bond conditions

Rebar Ø 8 to Ø 28									
Concrete class	C12/15	C16/20	C20/25	C25/30	C30/37	C35/45	C40/50	C45/55	C50/60
k_b [-]	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0
$f_{bd,PIR}$ [N/mm²]	1,6	2,0	2,3	2,7	3,0	3,4	3,7	4,0	4,3
Rebar Ø 32									
Concrete class	C12/15	C16/20	C20/25	C25/30	C30/37	C35/45	C40/50	C45/55	C50/60
k_b [-]	1,0	1,0	1,0	1,0	1,0	1,0	1,0	0,92	0,86
$f_{bd,PIR}$ [N/mm²]	1,6	2,0	2,3	2,7	3,0	3,4	3,7		
Rebar Ø 40									
Concrete class	C12/15	C16/20	C20/25	C25/30	C30/37	C35/45	C40/50	C45/55	C50/60
k_b [-]	1,0	1,0	1,0	0,86	0,76	0,69	0,63	0,58	0,54
$f_{bd,PIR}$ [N/mm²]	1,5	1,8	2,1						

Tabulated values are valid for good bond conditions according to EN 1992-1-1.
For all other bond conditions multiply the values by 0,7.

Table C2: Amplification factor for minimum anchorage length for hammer drilling methods

Rebar	Amplification factor	Concrete class								
		C12/15	C16/20	C20/25	C25/30	C30/37	C35/45	C40/50	C45/55	C50/60
Ø 8	$\alpha_{lb} = \alpha_{lb,100y}$	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0
Ø 10		1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0
Ø 12		1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0
Ø 14		1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0
Ø 16		1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0
Ø 18		1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0
Ø 20		1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0
Ø 22		1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0
Ø 24		1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0
Ø 25		1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0
Ø 26		1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0
Ø 28		1,0	1,0	1,0	1,0	1,0	1,0	1,1	1,2	1,3
Ø 32		1,0	1,0	1,0	1,0	1,0	1,0	1,1	1,2	1,3
Ø 40		1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5

Sika AnchorFix®-3030 for rebar connection	Annex C 1
Performances Design values of the ultimate bond strength under static loading for hammer or dustless drilling	

Design bond strength of post-installed rebar $f_{bd,PIR}$ and $f_{bd,PIR,100y}$ under static loading for working life 50 and 100 years for diamond core drilling

$f_{bd,PIR} = k_b \cdot f_{bd}$
k_b = reduction factor
f_{bd} = design bond strength of cast-in rebar according to EN 1992-1-1

Table C3: Values of the design bond strength of post installed rebar $f_{bd,PIR} = f_{bd,PIR,100y}$ with reduction factor $k_b = k_{b,100y}$ for diamond core drilling methods for good bond conditions

Rebar Ø 8 to Ø 26									
Concrete class	C12/15	C16/20	C20/25	C25/30	C30/37	C35/45	C40/50	C45/55	C50/60
k_b [-]	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0
$f_{bd,PIR}$ [N/mm²]	1,6	2,0	2,3	2,7	3,0	3,4	3,7	4,0	4,3
Rebar Ø 28									
Concrete class	C12/15	C16/20	C20/25	C25/30	C30/37	C35/45	C40/50	C45/55	C50/60
k_b [-]	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0	0,93
$f_{bd,PIR}$ [N/mm²]	1,6	2,0	2,3	2,7	3,0	3,4	3,7	4,0	
Rebar Ø 32									
Concrete class	C12/15	C16/20	C20/25	C25/30	C30/37	C35/45	C40/50	C45/55	C50/60
k_b [-]	1,0	1,0	1,0	1,0	1,0	1,0	0,91	0,84	0,79
$f_{bd,PIR}$ [N/mm²]	1,6	2,0	2,3	2,7	3,0	3,4			
Rebar Ø 40									
Concrete class	C12/15	C16/20	C20/25	C25/30	C30/37	C35/45	C40/50	C45/55	C50/60
k_b [-]	1,0	1,0	1,0	0,86	0,76	0,69	0,63	0,58	0,54
$f_{bd,PIR}$ [N/mm²]	1,5	1,8	2,1						

Tabulated values are valid for good bond conditions according to EN 1992-1-1.
For all other bond conditions multiply the values by 0,7.

Table C4: Amplification factor for minimum anchorage length for diamond core drilling methods

Rebar	Amplification factor	Concrete class C12/15 to C50/60
Ø 8 to Ø 40	$\alpha_{lb} = \alpha_{lb,100y}$	1,5

Sika AnchorFix®-3030 for rebar connection	Annex C 2
Performances Design values of the ultimate bond strength under static loading for diamond core drilling	

Design bond strength of post-installed rebar $f_{bd,PIR,seis}$ and $f_{bd,PIR,100y,seis}$ under seismic loading for working life 50 and 100 years for hammer or dustless drilling

$f_{bd,PIR,seis} = k_b \cdot f_{bd}$
$k_{b,seis}$ = reduction factor for seismic loading
f_{bd} = design bond strength of cast-in rebar according to EN 1992-1-1

Table C5: Values of the design bond strength of post installed rebar $f_{bd,PIR,seis} = f_{bd,PIR,100y,seis}$ with reduction factor $k_{b,seis} = k_{b,100y,seis}$ under seismic loading for hammer or dustless drilling methods for good bond conditions

Rebar Ø 12 to Ø 28								
Concrete class	C16/20	C20/25	C25/30	C30/37	C35/45	C40/50	C45/55	C50/60
$k_{b,seis}$ [-]	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0
$f_{bd,PIR,seis}$ [N/mm²]	2,0	2,3	2,7	3,0	3,4	3,7	4,0	4,3
Rebar Ø 32								
Concrete class	C16/20	C20/25	C25/30	C30/37	C35/45	C40/50	C45/55	C50/60
$k_{b,seis}$ [-]	1,0	1,0	1,0	1,0	1,0	1,0	0,92	0,86
$f_{bd,PIR,seis}$ [N/mm²]	2,0	2,3	2,7	3,0	3,4	3,7		
Rebar Ø 40								
Concrete class	C16/20	C20/25	C25/30	C30/37	C35/45	C40/50	C45/55	C50/60
$k_{b,seis}$ [-]	1,0	1,0	0,86	0,76	0,69	0,63	0,58	0,54
$f_{bd,PIR,seis}$ [N/mm²]	1,8	2,1						

Tabulated values are valid for good bond conditions according to EN 1992-1-1.

If Nationally Determined Parameter for α_{ct} differs from the recommended value given in EN 1992-1-1, f_{bd} shall be multiplied with α_{ct}.

If Nationally Determined Parameter for γ_c differs from the recommended value given in EN 1992-1-1, f_{bd} shall be multiplied with $1,5/\gamma_c$.

For all other than good bond conditions f_{bd} shall be multiplied with η_1 according to EN 1992-1-1, section 8.4.2.

For the minimum concrete cover see Annex B 3.

Table C6: Amplification factor for minimum anchorage length for hammer or dustless drilling methods

Rebar	Amplification factor	Concrete class							
		C16/20	C20/25	C25/30	C30/37	C35/45	C40/50	C45/55	C50/60
Ø 12	$\alpha_{lb} = \alpha_{lb,100y}$	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0
Ø 14		1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0
Ø 16		1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0
Ø 18		1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0
Ø 20		1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0
Ø 22		1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0
Ø 24		1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0
Ø 25		1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0
Ø 26		1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0
Ø 28		1,0	1,0	1,0	1,0	1,0	1,1	1,2	1,3
Ø 32		1,0	1,0	1,0	1,0	1,0	1,1	1,2	1,3
Ø 40		1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5

Sika AnchorFix®-3030 for rebar connection	Annex C 3
Performances Design values of the ultimate bond strength under seismic loading for hammer or dustless drilling	

Design values of the bond strength $f_{bk,fi}$ and $f_{bk,fi,100y}$ under fire exposure for working life 50 and 100 years for hammer or dustless drilling

The design value of the bond strength $f_{bk,fi} = f_{bk,fi,100y}$ under fire exposure has to be calculated according the following equation:

$$f_{bk,fi}(\theta) = f_{bk,fi,100y}(\theta) = k_{fi}(\theta) \cdot f_{bd,PIR} \cdot \frac{\gamma_c}{\gamma_{M,fi}}$$

if: $20°C \le \theta \le 41°C$ $\quad k_{fi}(\theta) = 1$

$> 41°C \le \theta \le 317°C$ $\quad k_{fi}(\theta) = 2150 \cdot \theta^{-1,438} / (f_{bd,PIR} \cdot 4,3) \le 1$

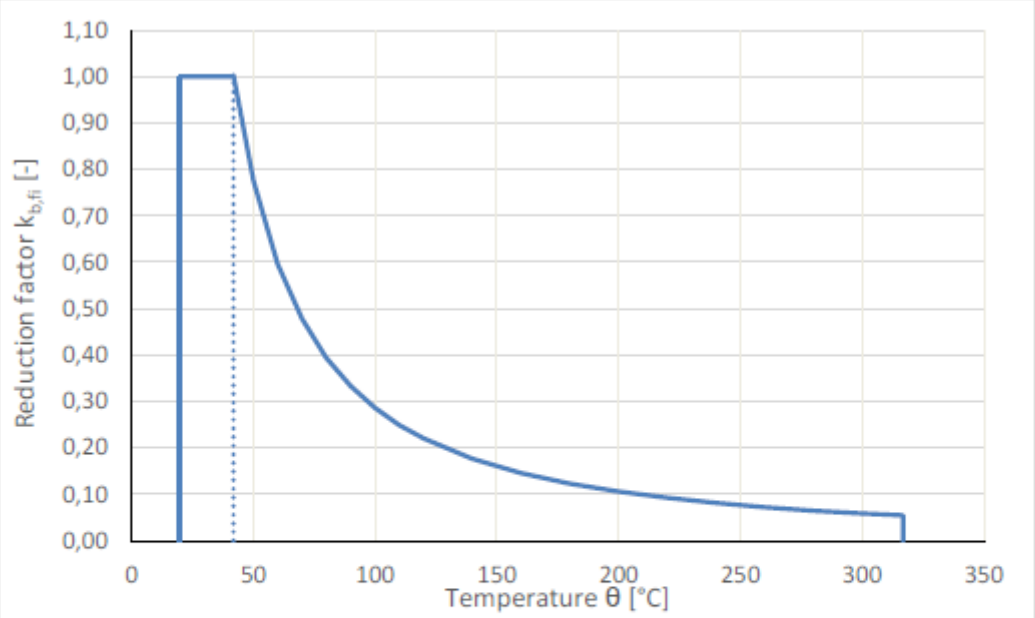
$\theta > 317°C$ $\quad k_{fi}(\theta) = 0$

with:

k_{fi}	temperature reduction factor
(θ)	temperature in °C
$f_{bd,PIR}$	design value of the bond strength in N/mm² according to Table C1 considering the concrete class, the rebar diameter and the bond conditions according to EN 1992-1-1
γ_c	partial safety factor according to EN 1992-1-1
$\gamma_{M,fi}$	partial safety factor according to EN 1992-1-1

The anchorage length shall be determined in accordance with EN 1992-1-1 equation (8.3) using the bond strength $f_{bk,fi}(\theta)$.

Figure C1: Example of the graph of reduction factor $k_{fi}(\theta)$ for concrete strength class C20/25 for good bond conditions



Sika AnchorFix®-3030 for rebar connection	**Annex C 4**
Performances Design values of the bond strength under fire exposure for hammer drilling	

The performance of the product identified above is in conformity with the set of declared performance/s. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:

Name : Tomasz Gutowski
Function: Corporate Product Certification Manager
At Warsaw on 13 November 2024

. . . . . .

Name : Patrycja Mlynarska
Function: Data Processing Specialist CTD
At Warsaw on 13 November 2024

. . . . . .

End of information as required by Regulation (EU) No 305/2011

CE MARKING TO BE PLACED ON THE LABEL

CE 18
Sika Services AG, Zurich, Switzerland
DoP No. 62770367
EAD 330087-01-0601:2020
Notified Body 1020
Post installed rebar connection with Sika AnchorFix®-3030 injection mortar
For details see accompanying documents
http://dop.sika.com

ECOLOGY, HEALTH AND SAFETY INFORMATION (REACH)

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

LEGAL NOTES

Sika Services AG
Tüffenwies 16-22
8064 Zürich
Switzerland