

Sika AnchorFix[®]-3030

DECLARATION DE PERFORMANCES

No. 25601660

1	CODE D'IDENTIFICATION UNIQUE DU PRODUIT TYPE :	25601660
2	USAGES PRÉVUS:	EAD 330499-01-0601:2018 Scellement chimique de tiges filetées pour utilisation dans du béton fissuré et non fissuré pour une durée de vie de 50 et/ou 100 ans
3	FABRICANT:	Sika Services AG Tüffenwies 16-22 8064 Zürich
4	MANDATAIRE:	-
5	SYSTEME(S) D'ÉVALUATION ET DE VÉRIFICATION DE LA CONSTANCE DES PERFORMANCES :	Système 1
6b	DOCUMENT D'ÉVALUATION EUROPÉEN:	EAD 330499-01-0601:2018
	Agrément Technique Européen :	ETA_17/0694 du 25/10/2021
	Organisme d'Evaluation Technique :	TECHNICKY A ZKUSEBNI USTAV STAVEBNI PRAHA S. P.
	Organisme notifié :	1020

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Déclaration de PerformancesSika AnchorFix[®]-3030

25601660

2024.12 , ver. 1

1138

7 PERFORMANCES DECLAREES

Caractéristiques essentielles	Performances	AVCP	Spécifications techniques harmonisées
Résistance caractéristique en traction sous charges statiques et quasi-statiques	Annexe C 1, C 2	Système 1	
Résistance caractéristique au cisaillement sous charges statiques et quasi-statiques	Voir Annexe C 3, C 4	Système 1	EAD 330499-01-0601:2018
Déplacements à court et long terme	Voir Annexe C 5	Système 1	
Résistance caractéristique sous charge sismique de catégories C1, C2	Voir Annexe C 6, C 7, C8	Système 1	

INTERNAL

Déclaration de Performances

Sika AnchorFix®-3030

25601660

2024.12 , ver. 1

1138

Table C1: Design method EN 1992-4
Characteristic values of resistance to tension load of threaded rod

Steel failure – Characteristic resistance											
Size			M8	M10	M12	M16	M20	M24	M27	M30	
Steel grade 4.6	$N_{Rk,s}$	[kN]	15	23	34	63	98	141	184	224	
Partial safety factor	γ_{Ms}	[-]	2,00								
Steel grade 4.8	$N_{Rk,s}$	[kN]	15	23	34	63	98	141	184	224	
Partial safety factor	γ_{Ms}	[-]	1,50								
Steel grade 5.8	$N_{Rk,s}$	[kN]	18	29	42	79	123	177	230	281	
Partial safety factor	γ_{Ms}	[-]	1,50								
Steel grade 8.8	$N_{Rk,s}$	[kN]	29	46	67	126	196	282	367	449	
Partial safety factor	γ_{Ms}	[-]	1,50								
Steel grade 10.9	$N_{Rk,s}$	[kN]	37	58	84	157	245	353	459	561	
Partial safety factor	γ_{Ms}	[-]	1,33								
Stainless steel grade A2-70, A4-70	$N_{Rk,s}$	[kN]	26	41	59	110	172	247	321	393	
Partial safety factor	γ_{Ms}	[-]	1,87								
Stainless steel grade A4-80	$N_{Rk,s}$	[kN]	29	46	67	126	196	282	367	449	
Partial safety factor	γ_{Ms}	[-]	1,60								
Stainless steel grade 1.4529	$N_{Rk,s}$	[kN]	26	41	59	110	172	247	321	393	
Partial safety factor	γ_{Ms}	[-]	1,50								
Stainless steel grade 1.4565	$N_{Rk,s}$	[kN]	26	41	59	110	172	247	321	393	
Partial safety factor	γ_{Ms}	[-]	1,87								
Combined pullout and concrete cone failure in concrete C20/25 for a working life of 50 years and 100 years											
Size			M8	M10	M12	M16	M20	M24	M27	M30	
Characteristic bond resistance in uncracked concrete											
Temperature T3: -40°C to +70°C	$\tau_{Rk,ucr}$	[N/mm ²]	17	15	15	12	12	12	11	9,5	
Dry, wet concrete, flooded hole											
Partial safety factor	γ_{inst}	[-]	1,0								
Characteristic bond resistance in cracked concrete											
Temperature T3: -40°C to +70°C	$\tau_{Rk,cr}$	[N/mm ²]	10	10	10	9,5	9	9	6	6	
Dry, wet concrete, flooded hole											
Partial safety factor	γ_{inst}	[-]	1,0								
Factor for influence of sustained load for a working life 50 years	T3: 50°C / 70°C ψ_{sus}^0	[-]	0,72								
Factor for concrete	C25/30 C30/37 C35/45 C40/50 C45/55 C50/60	ψ_c	1,02 1,04 1,06 1,07 1,08 1,09								
Concrete cone failure											
Factor for concrete cone failure for uncracked concrete	$k_{ucr,N}$	[-]	11								
Factor for concrete cone failure for cracked concrete	$k_{cr,N}$		7,7								
Edge distance	$c_{cr,N}$	[mm]	1,5h _{ef}								
Splitting failure											
Size			M8	M10	M12	M16	M20	M24	M27	M30	
Edge distance	$c_{cr,sp}$	[mm]	2 • h _{ef}								
Spacing	$s_{cr,sp}$	[mm]	2 • c _{cr,sp}								

Performances - Design according to EN 1992-4
Characteristic resistance for tension loads - threaded rod

Annex C 1

INTERNAL

Déclaration de Performances

Sika AnchorFix®-3030
25601660
2024.12 , ver. 1
1138

Table C2: Design method EN 1992-4
Characteristic values of resistance to tension load of rebar

Steel failure – Characteristic resistance										
Size			Ø8	Ø10	Ø12	Ø16	Ø20	Ø25	Ø32	
Rebar BSt 500 S	$N_{Rk,S}$	[kN]	28	43	62	111	173	270	442	
Partial safety factor	γ_{MS}	[-]	1,4							

Combined pullout and concrete cone failure in concrete C20/25 for a working life of 50 years and 100 years										
Size			Ø8	Ø10	Ø12	Ø16	Ø20	Ø25	Ø32	
Characteristic bond resistance in uncracked concrete										
Temperature T3: -40°C to +70°C	$\tau_{Rk,ucr}$	[N/mm ²]	13	13	13	12	12	12	8	
Dry and wet concrete										
Installation safety factor	γ_{inst}	[-]	1,0							
Flooded hole										
Installation safety factor	γ_{inst}	[-]	1,2							
Characteristic bond resistance in cracked concrete										
Temperature T3: -40°C to +70°C	$\tau_{Rk,cr}$	[N/mm ²]	8	11	10	10	9	8,5	6,5	
Dry and wet concrete										
Installation safety factor	γ_{inst}	[-]	1,0							
Flooded hole										
Installation safety factor	γ_{inst}	[-]	1,2							
Factor for influence of sustained load for a working life 50 years	T3: 50°C / 70°C	ψ^0_{sus}	[-]			0,72				
Factor for concrete	C25/30	ψ_c	[-]		1,02					
	C30/37				1,04					
	C35/45				1,06					
	C40/50				1,07					
	C45/55				1,08					
	C50/60	1,09								

Concrete cone failure			
Factor for concrete cone failure for uncracked concrete	$k_{ucr,N}$	[-]	11
Factor for concrete cone failure for cracked concrete	$k_{cr,N}$		7,7
Edge distance	$c_{cr,N}$	[mm]	1,5h _{ef}

Splitting failure										
Size			Ø8	Ø10	Ø12	Ø16	Ø20	Ø25	Ø32	
Edge distance	$c_{cr,sp}$	[mm]	2 • h _{ef}							
Spacing	$s_{cr,sp}$	[mm]	2 • c _{cr,sp}							

Performances
Design according to EN 1992-4
Characteristic resistance for tension loads - rebar

Annex C 2

INTERNAL

Déclaration de Performances

Sika AnchorFix®-3030

25601660

2024.12 , ver. 1

1138



Table C3: Design method EN 1992-4
Characteristic values of resistance to shear load of threaded rod

Steel failure without lever arm										
Size		M8	M10	M12	M16	M20	M24	M27	M30	
Steel grade 4.6	$V_{Rk,s}$ [kN]	7	12	17	31	49	71	92	112	
Partial safety factor	γ_{Ms} [-]	1,67								
Steel grade 4.8	$V_{Rk,s}$ [kN]	7	12	17	31	49	71	92	112	
Partial safety factor	γ_{Ms} [-]	1,25								
Steel grade 5.8	$V_{Rk,s}$ [kN]	9	15	21	39	61	88	115	140	
Partial safety factor	γ_{Ms} [-]	1,25								
Steel grade 8.8	$V_{Rk,s}$ [kN]	15	23	34	63	98	141	184	224	
Partial safety factor	γ_{Ms} [-]	1,25								
Steel grade 10.9	$V_{Rk,s}$ [kN]	18	29	42	79	123	177	230	281	
Partial safety factor	γ_{Ms} [-]	1,5								
Stainless steel grade A2-70, A4-70	$V_{Rk,s}$ [kN]	13	20	30	55	86	124	161	196	
Partial safety factor	γ_{Ms} [-]	1,56								
Stainless steel grade A4-80	$V_{Rk,s}$ [kN]	15	23	34	63	98	141	184	224	
Partial safety factor	γ_{Ms} [-]	1,33								
Stainless steel grade 1.4529	$V_{Rk,s}$ [kN]	13	20	30	55	86	124	161	196	
Partial safety factor	γ_{Ms} [-]	1,25								
Stainless steel grade 1.4565	$V_{Rk,s}$ [kN]	13	20	30	55	86	124	161	196	
Partial safety factor	γ_{Ms} [-]	1,56								
Characteristic resistance of group of fasteners										
Ductility factor $k_7 = 1,0$ for steel with rupture elongation $A_5 > 8\%$										

Steel failure with lever arm										
Size		M8	M10	M12	M16	M20	M24	M27	M30	
Steel grade 4.6	$M^o_{Rk,s}$ [N.m]	15	30	52	133	260	449	666	900	
Partial safety factor	γ_{Ms} [-]	1,67								
Steel grade 4.8	$M^o_{Rk,s}$ [N.m]	15	30	52	133	260	449	666	900	
Partial safety factor	γ_{Ms} [-]	1,25								
Steel grade 5.8	$M^o_{Rk,s}$ [N.m]	19	37	66	166	325	561	832	1125	
Partial safety factor	γ_{Ms} [-]	1,25								
Steel grade 8.8	$M^o_{Rk,s}$ [N.m]	30	60	105	266	519	898	1332	1799	
Partial safety factor	γ_{Ms} [-]	1,25								
Steel grade 10.9	$M^o_{Rk,s}$ [N.m]	37	75	131	333	649	1123	1664	2249	
Partial safety factor	γ_{Ms} [-]	1,50								
Stainless steel grade A2-70, A4-70	$M^o_{Rk,s}$ [N.m]	26	52	92	233	454	786	1165	1574	
Partial safety factor	γ_{Ms} [-]	1,56								
Stainless steel grade A4-80	$M^o_{Rk,s}$ [N.m]	30	60	105	266	519	898	1332	1799	
Partial safety factor	γ_{Ms} [-]	1,33								
Stainless steel grade 1.4529	$M^o_{Rk,s}$ [N.m]	26	52	92	233	454	786	1165	1574	
Partial safety factor	γ_{Ms} [-]	1,25								
Stainless steel grade 1.4565	$M^o_{Rk,s}$ [N.m]	26	52	92	233	454	786	1165	1574	
Partial safety factor	γ_{Ms} [-]	1,56								
Concrete pryout failure										
Factor for resistance to pry-out failure	k_8 [-]	2								

Concrete edge failure										
Size		M8	M10	M12	M16	M20	M24	M27	M30	
Outside diameter of fastener	d_{nom} [mm]	8	10	12	16	20	24	27	30	
Effective length of fastener	l_f [mm]	min (h_{ef} , 8 d_{nom})								

Performances - Design according to EN 1992-4
Characteristic resistance for shear loads - threaded rod

Annex C 3

INTERNAL

Déclaration de Performances

Sika AnchorFix®-3030
25601660
2024.12 , ver. 1
1138



Table C4: Design method EN 1992-4
Characteristic values of resistance to shear load of rebar

Steel failure without lever arm										
Size			Ø8	Ø10	Ø12	Ø16	Ø20	Ø25	Ø32	
Rebar BSt 500 S	$V_{Rk,s}$	[kN]	14	22	31	55	86	135	221	
Partial safety factor	γ_{Ms}	[-]	1,5							
Characteristic resistance of group of fasteners										
Ductility factor $k_7 = 1,0$ for steel with rupture elongation $A_5 > 8\%$										

Steel failure with lever arm										
Size			Ø8	Ø10	Ø12	Ø16	Ø20	Ø25	Ø32	
Rebar BSt 500 S	$M^o_{Rk,s}$	[N.m]	33	65	112	265	518	1013	2122	
Partial safety factor	γ_{Ms}	[-]	1,5							
Concrete pryout failure										
Factor for resistance to pry-out failure	k_8	[-]	2							

Concrete edge failure										
Size			Ø8	Ø10	Ø12	Ø16	Ø20	Ø25	Ø32	
Outside diameter of fastener	d_{nom}	[mm]	8	10	12	16	20	25	32	
Effective length of fastener	l_f	[mm]	min ($h_{ef}, 8 d_{nom}$)							

Performances

Design according to EN 1992-4
Characteristic resistance for shear loads - rebar

Annex C 4

INTERNAL

Déclaration de Performances

Sika AnchorFix®-3030

25601660

2024.12 , ver. 1

1138

Table C5: Displacement of threaded rod under tension and shear load

Size	M8	M10	M12	M16	M20	M24	M27	M30
Tension load								
Uncracked concrete								
δ_{N0} [mm/kN]	0,03	0,02	0,02	0,02	0,01	0,01	0,01	0,01
$\delta_{N\infty}$ [mm/kN]	0,05	0,04	0,03	0,03	0,02	0,02	0,01	0,01
Cracked concrete								
δ_{N0} [mm/kN]	0,05	0,04	0,03	0,03	0,02	0,02	0,02	0,02
$\delta_{N\infty}$ [mm/kN]	0,35	0,21	0,14	0,12	0,08	0,07	0,07	0,07
Shear load								
δ_{V0} [mm/kN]	0,71	0,45	0,31	0,17	0,11	0,07	0,06	0,05
$\delta_{V\infty}$ [mm/kN]	1,06	0,67	0,46	0,25	0,16	0,11	0,08	0,07

Table C6: Displacement of rebar under tension and shear load

Size	Ø8	Ø10	Ø12	Ø16	Ø20	Ø25	Ø32
Tension load							
Uncracked concrete							
δ_{N0} [mm/kN]	0,04	0,03	0,02	0,01	0,01	0,01	0,01
$\delta_{N\infty}$ [mm/kN]	0,08	0,05	0,04	0,02	0,02	0,01	0,01
Cracked concrete							
δ_{N0} [mm/kN]	0,05	0,04	0,03	0,03	0,02	0,02	0,02
$\delta_{N\infty}$ [mm/kN]	0,35	0,21	0,17	0,11	0,08	0,07	0,06
Shear load							
δ_{V0} [mm/kN]	0,38	0,24	0,17	0,10	0,06	0,04	0,02
$\delta_{V\infty}$ [mm/kN]	0,56	0,36	0,25	0,14	0,09	0,06	0,04

Performances

Displacement for threaded rod and rebar

Annex C 5

INTERNAL

Déclaration de Performances

Sika AnchorFix®-3030

25601660

2024.12 , ver. 1

1138

7/22

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Table C7: Seismic performance category C1 of threaded rod

Size		M8	M10	M12	M16	M20	M24	M27	M30
Tension load									
Steel failure									
Characteristic resistance grade 4.6	$N_{Rk,s,eq,C1}$ [kN]	15	23	34	63	98	141	184	224
Partial safety factor	γ_{Ms} [-]	2,00							
Characteristic resistance grade 4.8	$N_{Rk,s,eq,C1}$ [kN]	15	23	34	63	98	141	184	224
Partial safety factor	γ_{Ms} [-]	1,50							
Characteristic resistance grade 5.8	$N_{Rk,s,eq,C1}$ [kN]	18	29	42	79	123	177	230	281
Partial safety factor	γ_{Ms} [-]	1,50							
Characteristic resistance grade 8.8	$N_{Rk,s,eq,C1}$ [kN]	29	46	67	126	196	282	367	449
Partial safety factor	γ_{Ms} [-]	1,50							
Characteristic resistance grade 10.9	$N_{Rk,s,eq,C1}$ [kN]	37	58	84	157	245	353	459	561
Partial safety factor	γ_{Ms} [-]	1,33							
Characteristic resistance A2-70, A4-70	$N_{Rk,s,eq,C1}$ [kN]	26	41	59	110	172	247	321	393
Partial safety factor	γ_{Ms} [-]	1,87							
Characteristic resistance A4-80	$N_{Rk,s,eq,C1}$ [kN]	29	46	67	126	196	282	367	449
Partial safety factor	γ_{Ms} [-]	1,60							
Characteristic resistance 1.4529	$N_{Rk,s,eq,C1}$ [kN]	26	41	59	110	172	247	321	393
Partial safety factor	γ_{Ms} [-]	1,50							
Characteristic resistance 1.4565	$N_{Rk,s,eq,C1}$ [kN]	26	41	59	110	172	247	321	393
Partial safety factor	γ_{Ms} [-]	1,87							
Combined pullout and concrete cone failure in concrete C20/25 for a working life of 50 years and 100 years									
Characteristic bond resistance									
Temperature T3: -40°C to +70°C	$\tau_{Rk,p,eq,C1}$ [N/mm ²]	9,4	8,5	10,0	8,7	7,4	7,7	5,7	4,9
Installation safety factor	γ_{inst} [-]	1,0							
Shear load									
Steel failure without lever arm									
Characteristic resistance grade 4.6	$V_{Rk,s,eq,C1}$ [kN]	5	9	13	20	32	28	37	45
Partial safety factor	γ_{Ms} [-]	1,67							
Characteristic resistance grade 4.8	$V_{Rk,s,eq,C1}$ [kN]	5	9	13	20	32	28	37	45
Partial safety factor	γ_{Ms} [-]	1,25							
Characteristic resistance grade 5.8	$V_{Rk,s,eq,C1}$ [kN]	7	11	16	26	40	35	46	56
Partial safety factor	γ_{Ms} [-]	1,25							
Characteristic resistance grade 8.8	$V_{Rk,s,eq,C1}$ [kN]	11	17	25	41	64	56	73	90
Partial safety factor	γ_{Ms} [-]	1,25							
Characteristic resistance grade 10.9	$V_{Rk,s,eq,C1}$ [kN]	14	22	32	51	80	71	92	112
Partial safety factor	γ_{Ms} [-]	1,50							
Characteristic resistance A2-70, A4-70	$V_{Rk,s,eq,C1}$ [kN]	10	15	22	36	56	49	64	79
Partial safety factor	γ_{Ms} [-]	1,56							
Characteristic resistance A4-80	$V_{Rk,s,eq,C1}$ [kN]	11	17	25	41	64	56	73	90
Partial safety factor	γ_{Ms} [-]	1,33							
Characteristic resistance 1.4529	$V_{Rk,s,eq,C1}$ [kN]	10	15	22	36	56	49	64	79
Partial safety factor	γ_{Ms} [-]	1,25							
Characteristic resistance 1.4565	$V_{Rk,s,eq,C1}$ [kN]	10	15	22	36	56	49	64	79
Partial safety factor	γ_{Ms} [-]	1,56							
Characteristic shear load resistance $V_{Rk,s,eq}$ in the Table C7 shall be multiplied by following reduction factor for hot-dip galvanized commercial standard rods									
Reduction factor for hot-dip galvanized rods	$\alpha_{v,h-dg,c1}$ [-]	0,47	0,47	0,47	0,54	0,54	0,88	0,88	0,88
Factor for annular gap	α_{gap} [-]	0,5							

The anchor shall be used with minimum rupture elongation after fracture A_5 equal to 19%.

Performances

Seismic performance category C1 of threaded rod

Annex C 6

INTERNAL

Déclaration de Performances

Sika AnchorFix®-3030

25601660

2024.12 , ver. 1

1138



Table C8: Seismic performance category C1 of rebar

Size		Ø10	Ø12	Ø16	Ø20	Ø25	Ø32
Tension load							
Steel failure							
Rebar BSt 500 S	$N_{Rk,s,eq,C1}$ [kN]	43	62	111	173	270	442
Partial safety factor	γ_{Ms} [-]	1,4					
Combined pullout and concrete cone failure in concrete C20/25 for a working life of 50 years and 100 years							
Temperature T3: -40°C to +70°C	$\tau_{Rk,p,eq,C1}$ [N/mm ²]	9,4	9,8	9,5	8,8	8,0	5,3
Dry and wet concrete							
Installation safety factor	γ_{inst} [-]	1,0					
Flooded hole							
Installation safety factor	γ_{inst} [-]	1,2					
Shear load							
Steel failure without lever arm							
Rebar BSt 500 S	$V_{Rk,s,eq,C1}$ [kN]	16	23	41	69	67	111
Partial safety factor	γ_{Ms} [-]	1,5					
Factor for annular gap	α_{gap} [-]	0,5					

Performances

Seismic performance category C1 of rebar

Annex C 7**Annex C 8 Performances**

Seismic performance category C2 of threaded rod

Table C9: Seismic performance category C2 of threaded rod

Size		M12	M16	M20
Tension load				
Steel failure				
Characteristic resistance grade 4.6	$N_{Rk,s,eq,C2}$ [kN]	34	63	98
Partial safety factor	γ_{Ms} [-]	2,00		
Characteristic resistance grade 4.8	$N_{Rk,s,eq,C2}$ [kN]	34	63	98
Partial safety factor	γ_{Ms} [-]	1,50		
Characteristic resistance grade 5.8	$N_{Rk,s,eq,C2}$ [kN]	42	79	123
Partial safety factor	γ_{Ms} [-]	1,50		
Characteristic resistance grade 8.8	$N_{Rk,s,eq,C2}$ [kN]	67	126	196
Partial safety factor	γ_{Ms} [-]	1,50		
Characteristic resistance grade 10.9	$N_{Rk,s,eq,C2}$ [kN]	84	157	245
Partial safety factor	γ_{Ms} [-]	1,33		
Characteristic resistance A2-70, A4-70	$N_{Rk,s,eq,C2}$ [kN]	59	110	172
Partial safety factor	γ_{Ms} [-]	1,87		
Characteristic resistance A4-80	$N_{Rk,s,eq,C2}$ [kN]	67	126	196
Partial safety factor	γ_{Ms} [-]	1,60		
Characteristic resistance 1.4529	$N_{Rk,s,eq,C2}$ [kN]	59	110	172
Partial safety factor	γ_{Ms} [-]	1,50		
Characteristic resistance 1.4565	$N_{Rk,s,eq,C2}$ [kN]	59	110	172
Partial safety factor	γ_{Ms} [-]	1,87		
Combined pullout and concrete cone failure in concrete C20/25 for a working life of 50 years and 100 years				
Characteristic bond resistance				
Temperature T3: -40°C to +70°C	$\tau_{Rk,p,eq,C2}$ [N/mm ²]	3,5	4,0	4,5
Installation safety factor	γ_{inst} [-]	1,0		
Performances				Annex C 8
Seismic performance category C2 of threaded rod				

INTERNAL

Déclaration de Performances

Sika AnchorFix®-3030

25601660

2024.12 , ver. 1

1138

9/22

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Table C9 (cont): Seismic performance category C2 of threaded rod

Shear load					
Steel failure without lever arm					
Characteristic resistance grade 4.6	$V_{Rk,s,eq,C2}$	[kN]	13	18	28
Partial safety factor	γ_{Ms}	[-]		1,67	
Characteristic resistance grade 4.8	$V_{Rk,s,eq,C2}$	[kN]	13	18	28
Partial safety factor	γ_{Ms}	[-]		1,25	
Characteristic resistance grade 5.8	$V_{Rk,s,eq,C2}$	[kN]	16	22	35
Partial safety factor	γ_{Ms}	[-]		1,25	
Characteristic resistance grade 8.8	$V_{Rk,s,eq,C2}$	[kN]	25	36	56
Partial safety factor	γ_{Ms}	[-]		1,25	
Characteristic resistance grade 10.9	$V_{Rk,s,eq,C2}$	[kN]	32	45	70
Partial safety factor	γ_{Ms}	[-]		1,50	
Characteristic resistance A2-70, A4-70	$V_{Rk,s,eq,C2}$	[kN]	22	31	49
Partial safety factor	γ_{Ms}	[-]		1,56	
Characteristic resistance A4-80	$V_{Rk,s,eq,C2}$	[kN]	25	36	56
Partial safety factor	γ_{Ms}	[-]		1,33	
Characteristic resistance 1.4529	$V_{Rk,s,eq,C2}$	[kN]	22	31	49
Partial safety factor	γ_{Ms}	[-]		1,25	
Characteristic resistance 1.4565	$V_{Rk,s,eq,C2}$	[kN]	22	31	49
Partial safety factor	γ_{Ms}	[-]		1,56	
Characteristic shear load resistance $V_{Rk,s,eq}$ in the Table C9 shall be multiplied by following reduction factor for hot-dip galvanized commercial standard rods					
Reduction factor for hot-dip galvanized rods	$\alpha_{v,h-dg,c2}$	[-]	0,46	0,61	0,61
Factor for annular gap	α_{gap}	[-]		0,5	

Table C10: Displacement under tensile and shear load - seismic category C2 of threaded rod

Size		M12	M16	M20
$\delta_{N,eq}(DLS)$	[mm]	0,20	0,40	0,77
$\delta_{N,eq}(ULS)$	[mm]	0,76	0,74	1,68
$\delta_{V,eq}(DLS)$	[mm]	5,29	4,12	4,94
$\delta_{V,eq}(ULS)$	[mm]	10,20	9,05	10,99

The anchor shall be used with minimum rupture elongation after fracture A_5 equal to 19%.

Performances

Seismic performance category C2 of threaded rod

Annex C 8

INTERNAL

Déclaration de Performances

Sika AnchorFix®-3030

25601660

2024.12 , ver. 1

1138

10/22

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8 DOCUMENTATION TECHNIQUE APPROPRIÉE ET/OU DOCUMENTATION TECHNIQUE SPECIFIQUE

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

Les performances du produit identifié ci-dessus sont conformes aux performances déclarées. Conformément au règlement (UE) no 305/2011, la présente déclaration des performances est établie sous la seule responsabilité du fabricant mentionné ci-dessus.

Signé pour le fabricant et en son nom par :

Nom : Tetyana Kuryatnyk
Fonction : Ingénieur Produits
Le Bourget, le 13/12/2024

Nom : Laurent Galloux
Fonction : Directeur Général
Le Bourget, le 17.01.2025

T. KURYATNYK



Autre DECLARATION de PERFORMANCES relative au Sika AnchroFix-3030

Nom du Produit	Evaluation Technique Européenne (ETE)	N° DoP
Sika AnchorFix®-3030	ETA 17/0693 du 06/05/2024	62770367

INTERNAL

Déclaration de Performances

Sika AnchorFix®-3030

25601660

2024.12 , ver. 1


1138

11/22

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 21
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Résistance caractéristique en traction sous charges statiques et quasi-statiques - Annexe C 1, C 2
Résistance caractéristique au cisaillement sous charges statiques et quasi-statiques - Annexe C 3, C 4
Déplacements sous chargement à court et à long terme - Annex C 5
Résistance caractéristique sous charge sismique de catégories C1, C2 - Annex C 6, C 7, C 8

INTERNAL

Déclaration de Performances

Sika AnchorFix®-3030

25601660

2024.12 , ver. 1

1138

12/22

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Table C1: Design method EN 1992-4
Characteristic values of resistance to tension load of threaded rod

Steel failure – Characteristic resistance										
Size			M8	M10	M12	M16	M20	M24	M27	M30
Steel grade 4.6	$N_{Rk,s}$	[kN]	15	23	34	63	98	141	184	224
Partial safety factor	γ_{Ms}	[-]	2,00							
Steel grade 4.8	$N_{Rk,s}$	[kN]	15	23	34	63	98	141	184	224
Partial safety factor	γ_{Ms}	[-]	1,50							
Steel grade 5.8	$N_{Rk,s}$	[kN]	18	29	42	79	123	177	230	281
Partial safety factor	γ_{Ms}	[-]	1,50							
Steel grade 8.8	$N_{Rk,s}$	[kN]	29	46	67	126	196	282	367	449
Partial safety factor	γ_{Ms}	[-]	1,50							
Steel grade 10.9	$N_{Rk,s}$	[kN]	37	58	84	157	245	353	459	561
Partial safety factor	γ_{Ms}	[-]	1,33							
Stainless steel grade A2-70, A4-70	$N_{Rk,s}$	[kN]	26	41	59	110	172	247	321	393
Partial safety factor	γ_{Ms}	[-]	1,87							
Stainless steel grade A4-80	$N_{Rk,s}$	[kN]	29	46	67	126	196	282	367	449
Partial safety factor	γ_{Ms}	[-]	1,60							
Stainless steel grade 1.4529	$N_{Rk,s}$	[kN]	26	41	59	110	172	247	321	393
Partial safety factor	γ_{Ms}	[-]	1,50							
Stainless steel grade 1.4565	$N_{Rk,s}$	[kN]	26	41	59	110	172	247	321	393
Partial safety factor	γ_{Ms}	[-]	1,87							
Combined pullout and concrete cone failure in concrete C20/25 for a working life of 50 years and 100 years										
Size			M8	M10	M12	M16	M20	M24	M27	M30
Characteristic bond resistance in uncracked concrete										
Temperature T3: -40°C to +70°C	$\tau_{Rk,ucr}$	[N/mm ²]	17	15	15	12	12	12	11	9,5
Dry, wet concrete, flooded hole										
Partial safety factor	γ_{inst}	[-]	1,0							
Characteristic bond resistance in cracked concrete										
Temperature T3: -40°C to +70°C	$\tau_{Rk,cr}$	[N/mm ²]	10	10	10	9,5	9	9	6	6
Dry, wet concrete, flooded hole										
Partial safety factor	γ_{inst}	[-]	1,0							
Factor for influence of sustained load for a working life 50 years	T3: 50°C / 70°C ψ_{sus}^0	[-]	0,72							
Factor for concrete	C25/30 C30/37 C35/45 C40/50 C45/55 C50/60	ψ_c	1,02 1,04 1,06 1,07 1,08 1,09							
Concrete cone failure										
Factor for concrete cone failure for uncracked concrete	$k_{ucr,N}$	[-]	11							
Factor for concrete cone failure for cracked concrete	$k_{cr,N}$	[-]	7,7							
Edge distance	$c_{cr,N}$	[mm]	1,5h _{ef}							
Splitting failure										
Size			M8	M10	M12	M16	M20	M24	M27	M30
Edge distance	$c_{cr,sp}$	[mm]	2 • h _{ef}							
Spacing	$s_{cr,sp}$	[mm]	2 • c _{cr,sp}							

Performances - Design according to EN 1992-4
Characteristic resistance for tension loads - threaded rod

Annex C 1

INTERNAL

Déclaration de Performances

Sika AnchorFix®-3030
25601660
2024.12 , ver. 1
1138

13/22

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Table C2: Design method EN 1992-4
Characteristic values of resistance to tension load of rebar

Steel failure – Characteristic resistance										
Size			Ø8	Ø10	Ø12	Ø16	Ø20	Ø25	Ø32	
Rebar BSt 500 S	$N_{Rk,S}$	[kN]	28	43	62	111	173	270	442	
Partial safety factor	γ_{MS}	[-]	1,4							

Combined pullout and concrete cone failure in concrete C20/25 for a working life of 50 years and 100 years										
Size			Ø8	Ø10	Ø12	Ø16	Ø20	Ø25	Ø32	
Characteristic bond resistance in uncracked concrete										
Temperature T3: -40°C to +70°C	$\tau_{Rk,ucr}$	[N/mm ²]	13	13	13	12	12	12	8	
Dry and wet concrete										
Installation safety factor	γ_{inst}	[-]	1,0							
Flooded hole										
Installation safety factor	γ_{inst}	[-]	1,2							
Characteristic bond resistance in cracked concrete										
Temperature T3: -40°C to +70°C	$\tau_{Rk,cr}$	[N/mm ²]	8	11	10	10	9	8,5	6,5	
Dry and wet concrete										
Installation safety factor	γ_{inst}	[-]	1,0							
Flooded hole										
Installation safety factor	γ_{inst}	[-]	1,2							
Factor for influence of sustained load for a working life 50 years	T3: 50°C / 70°C	ψ^0_{sus}	[-]			0,72				
Factor for concrete	C25/30	ψ_c	[-]			1,02				
	C30/37					1,04				
	C35/45					1,06				
	C40/50					1,07				
	C45/55					1,08				
	C50/60				1,09					

Concrete cone failure			
Factor for concrete cone failure for uncracked concrete	$k_{ucr,N}$	[-]	11
Factor for concrete cone failure for cracked concrete	$k_{cr,N}$		7,7
Edge distance	$c_{cr,N}$	[mm]	1,5h _{ef}

Splitting failure										
Size			Ø8	Ø10	Ø12	Ø16	Ø20	Ø25	Ø32	
Edge distance	$c_{cr,sp}$	[mm]	2 • h _{ef}							
Spacing	$s_{cr,sp}$	[mm]	2 • c _{cr,sp}							

Performances
Design according to EN 1992-4
Characteristic resistance for tension loads - rebar

Annex C 2

INTERNAL

Déclaration de Performances

Sika AnchorFix®-3030

25601660

2024.12 , ver. 1

1138

14/22

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Table C3: Design method EN 1992-4
Characteristic values of resistance to shear load of threaded rod

Steel failure without lever arm									
Size		M8	M10	M12	M16	M20	M24	M27	M30
Steel grade 4.6	$V_{Rk,s}$ [kN]	7	12	17	31	49	71	92	112
Partial safety factor	γ_{Ms} [-]	1,67							
Steel grade 4.8	$V_{Rk,s}$ [kN]	7	12	17	31	49	71	92	112
Partial safety factor	γ_{Ms} [-]	1,25							
Steel grade 5.8	$V_{Rk,s}$ [kN]	9	15	21	39	61	88	115	140
Partial safety factor	γ_{Ms} [-]	1,25							
Steel grade 8.8	$V_{Rk,s}$ [kN]	15	23	34	63	98	141	184	224
Partial safety factor	γ_{Ms} [-]	1,25							
Steel grade 10.9	$V_{Rk,s}$ [kN]	18	29	42	79	123	177	230	281
Partial safety factor	γ_{Ms} [-]	1,5							
Stainless steel grade A2-70, A4-70	$V_{Rk,s}$ [kN]	13	20	30	55	86	124	161	196
Partial safety factor	γ_{Ms} [-]	1,56							
Stainless steel grade A4-80	$V_{Rk,s}$ [kN]	15	23	34	63	98	141	184	224
Partial safety factor	γ_{Ms} [-]	1,33							
Stainless steel grade 1.4529	$V_{Rk,s}$ [kN]	13	20	30	55	86	124	161	196
Partial safety factor	γ_{Ms} [-]	1,25							
Stainless steel grade 1.4565	$V_{Rk,s}$ [kN]	13	20	30	55	86	124	161	196
Partial safety factor	γ_{Ms} [-]	1,56							
Characteristic resistance of group of fasteners									
Ductility factor $k_7 = 1,0$ for steel with rupture elongation $A_5 > 8\%$									

Steel failure with lever arm									
Size		M8	M10	M12	M16	M20	M24	M27	M30
Steel grade 4.6	$M^o_{Rk,s}$ [N.m]	15	30	52	133	260	449	666	900
Partial safety factor	γ_{Ms} [-]	1,67							
Steel grade 4.8	$M^o_{Rk,s}$ [N.m]	15	30	52	133	260	449	666	900
Partial safety factor	γ_{Ms} [-]	1,25							
Steel grade 5.8	$M^o_{Rk,s}$ [N.m]	19	37	66	166	325	561	832	1125
Partial safety factor	γ_{Ms} [-]	1,25							
Steel grade 8.8	$M^o_{Rk,s}$ [N.m]	30	60	105	266	519	898	1332	1799
Partial safety factor	γ_{Ms} [-]	1,25							
Steel grade 10.9	$M^o_{Rk,s}$ [N.m]	37	75	131	333	649	1123	1664	2249
Partial safety factor	γ_{Ms} [-]	1,50							
Stainless steel grade A2-70, A4-70	$M^o_{Rk,s}$ [N.m]	26	52	92	233	454	786	1165	1574
Partial safety factor	γ_{Ms} [-]	1,56							
Stainless steel grade A4-80	$M^o_{Rk,s}$ [N.m]	30	60	105	266	519	898	1332	1799
Partial safety factor	γ_{Ms} [-]	1,33							
Stainless steel grade 1.4529	$M^o_{Rk,s}$ [N.m]	26	52	92	233	454	786	1165	1574
Partial safety factor	γ_{Ms} [-]	1,25							
Stainless steel grade 1.4565	$M^o_{Rk,s}$ [N.m]	26	52	92	233	454	786	1165	1574
Partial safety factor	γ_{Ms} [-]	1,56							
Concrete pryout failure									
Factor for resistance to pry-out failure	k_8 [-]	2							

Concrete edge failure									
Size		M8	M10	M12	M16	M20	M24	M27	M30
Outside diameter of fastener	d_{nom} [mm]	8	10	12	16	20	24	27	30
Effective length of fastener	l_f [mm]	$\min(h_{ef}, 8 d_{nom})$							

Performances - Design according to EN 1992-4
Characteristic resistance for shear loads - threaded rod

Annex C 3

INTERNAL

Déclaration de Performances

Sika AnchorFix®-3030
25601660
2024.12 , ver. 1
1138

15/22

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Table C4: Design method EN 1992-4
Characteristic values of resistance to shear load of rebar

Steel failure without lever arm										
Size			Ø8	Ø10	Ø12	Ø16	Ø20	Ø25	Ø32	
Rebar BSt 500 S	$V_{Rk,s}$	[kN]	14	22	31	55	86	135	221	
Partial safety factor	γ_{Ms}	[-]	1,5							
Characteristic resistance of group of fasteners										
Ductility factor $k_7 = 1,0$ for steel with rupture elongation $A_5 > 8\%$										

Steel failure with lever arm										
Size			Ø8	Ø10	Ø12	Ø16	Ø20	Ø25	Ø32	
Rebar BSt 500 S	$M^o_{Rk,s}$	[N.m]	33	65	112	265	518	1013	2122	
Partial safety factor	γ_{Ms}	[-]	1,5							
Concrete pryout failure										
Factor for resistance to pry-out failure	k_8	[-]	2							

Concrete edge failure										
Size			Ø8	Ø10	Ø12	Ø16	Ø20	Ø25	Ø32	
Outside diameter of fastener	d_{nom}	[mm]	8	10	12	16	20	25	32	
Effective length of fastener	l_f	[mm]	min (h_{ef} , 8 d_{nom})							

Performances

Design according to EN 1992-4
Characteristic resistance for shear loads - rebar

Annex C 4

INTERNAL

Déclaration de Performances

Sika AnchorFix®-3030

25601660

2024.12 , ver. 1

1138

16/22

BUILDING TRUST



Table C5: Displacement of threaded rod under tension and shear load

Size	M8	M10	M12	M16	M20	M24	M27	M30
Tension load								
Uncracked concrete								
δ_{N0} [mm/kN]	0,03	0,02	0,02	0,02	0,01	0,01	0,01	0,01
$\delta_{N\infty}$ [mm/kN]	0,05	0,04	0,03	0,03	0,02	0,02	0,01	0,01
Cracked concrete								
δ_{N0} [mm/kN]	0,05	0,04	0,03	0,03	0,02	0,02	0,02	0,02
$\delta_{N\infty}$ [mm/kN]	0,35	0,21	0,14	0,12	0,08	0,07	0,07	0,07
Shear load								
δ_{V0} [mm/kN]	0,71	0,45	0,31	0,17	0,11	0,07	0,06	0,05
$\delta_{V\infty}$ [mm/kN]	1,06	0,67	0,46	0,25	0,16	0,11	0,08	0,07

Table C6: Displacement of rebar under tension and shear load

Size	Ø8	Ø10	Ø12	Ø16	Ø20	Ø25	Ø32
Tension load							
Uncracked concrete							
δ_{N0} [mm/kN]	0,04	0,03	0,02	0,01	0,01	0,01	0,01
$\delta_{N\infty}$ [mm/kN]	0,08	0,05	0,04	0,02	0,02	0,01	0,01
Cracked concrete							
δ_{N0} [mm/kN]	0,05	0,04	0,03	0,03	0,02	0,02	0,02
$\delta_{N\infty}$ [mm/kN]	0,35	0,21	0,17	0,11	0,08	0,07	0,06
Shear load							
δ_{V0} [mm/kN]	0,38	0,24	0,17	0,10	0,06	0,04	0,02
$\delta_{V\infty}$ [mm/kN]	0,56	0,36	0,25	0,14	0,09	0,06	0,04

Performances

Displacement for threaded rod and rebar

Annex C 5

INTERNAL

Déclaration de Performances

Sika AnchorFix®-3030

25601660

2024.12 , ver. 1

1138

17/22

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Table C7: Seismic performance category C1 of threaded rod

Size		M8	M10	M12	M16	M20	M24	M27	M30
Tension load									
Steel failure									
Characteristic resistance grade 4.6	$N_{Rk,s,eq,C1}$ [kN]	15	23	34	63	98	141	184	224
Partial safety factor	γ_{Ms} [-]	2,00							
Characteristic resistance grade 4.8	$N_{Rk,s,eq,C1}$ [kN]	15	23	34	63	98	141	184	224
Partial safety factor	γ_{Ms} [-]	1,50							
Characteristic resistance grade 5.8	$N_{Rk,s,eq,C1}$ [kN]	18	29	42	79	123	177	230	281
Partial safety factor	γ_{Ms} [-]	1,50							
Characteristic resistance grade 8.8	$N_{Rk,s,eq,C1}$ [kN]	29	46	67	126	196	282	367	449
Partial safety factor	γ_{Ms} [-]	1,50							
Characteristic resistance grade 10.9	$N_{Rk,s,eq,C1}$ [kN]	37	58	84	157	245	353	459	561
Partial safety factor	γ_{Ms} [-]	1,33							
Characteristic resistance A2-70, A4-70	$N_{Rk,s,eq,C1}$ [kN]	26	41	59	110	172	247	321	393
Partial safety factor	γ_{Ms} [-]	1,87							
Characteristic resistance A4-80	$N_{Rk,s,eq,C1}$ [kN]	29	46	67	126	196	282	367	449
Partial safety factor	γ_{Ms} [-]	1,60							
Characteristic resistance 1.4529	$N_{Rk,s,eq,C1}$ [kN]	26	41	59	110	172	247	321	393
Partial safety factor	γ_{Ms} [-]	1,50							
Characteristic resistance 1.4565	$N_{Rk,s,eq,C1}$ [kN]	26	41	59	110	172	247	321	393
Partial safety factor	γ_{Ms} [-]	1,87							
Combined pullout and concrete cone failure in concrete C20/25 for a working life of 50 years and 100 years									
Characteristic bond resistance									
Temperature T3: -40°C to +70°C	$\tau_{Rk,p,eq,C1}$ [N/mm ²]	9,4	8,5	10,0	8,7	7,4	7,7	5,7	4,9
Installation safety factor	γ_{inst} [-]	1,0							
Shear load									
Steel failure without lever arm									
Characteristic resistance grade 4.6	$V_{Rk,s,eq,C1}$ [kN]	5	9	13	20	32	28	37	45
Partial safety factor	γ_{Ms} [-]	1,67							
Characteristic resistance grade 4.8	$V_{Rk,s,eq,C1}$ [kN]	5	9	13	20	32	28	37	45
Partial safety factor	γ_{Ms} [-]	1,25							
Characteristic resistance grade 5.8	$V_{Rk,s,eq,C1}$ [kN]	7	11	16	26	40	35	46	56
Partial safety factor	γ_{Ms} [-]	1,25							
Characteristic resistance grade 8.8	$V_{Rk,s,eq,C1}$ [kN]	11	17	25	41	64	56	73	90
Partial safety factor	γ_{Ms} [-]	1,25							
Characteristic resistance grade 10.9	$V_{Rk,s,eq,C1}$ [kN]	14	22	32	51	80	71	92	112
Partial safety factor	γ_{Ms} [-]	1,50							
Characteristic resistance A2-70, A4-70	$V_{Rk,s,eq,C1}$ [kN]	10	15	22	36	56	49	64	79
Partial safety factor	γ_{Ms} [-]	1,56							
Characteristic resistance A4-80	$V_{Rk,s,eq,C1}$ [kN]	11	17	25	41	64	56	73	90
Partial safety factor	γ_{Ms} [-]	1,33							
Characteristic resistance 1.4529	$V_{Rk,s,eq,C1}$ [kN]	10	15	22	36	56	49	64	79
Partial safety factor	γ_{Ms} [-]	1,25							
Characteristic resistance 1.4565	$V_{Rk,s,eq,C1}$ [kN]	10	15	22	36	56	49	64	79
Partial safety factor	γ_{Ms} [-]	1,56							
Characteristic shear load resistance $V_{Rk,s,eq}$ in the Table C7 shall be multiplied by following reduction factor for hot-dip galvanized commercial standard rods									
Reduction factor for hot-dip galvanized rods	$\alpha_{v,h-dg,c1}$ [-]	0,47	0,47	0,47	0,54	0,54	0,88	0,88	0,88
Factor for annular gap	α_{gap} [-]	0,5							

The anchor shall be used with minimum rupture elongation after fracture A_5 equal to 19%.

Performances

Seismic performance category C1 of threaded rod

Annex C 6

INTERNAL

Déclaration de Performances

Sika AnchorFix®-3030

25601660

2024.12 , ver. 1

1138

18/22

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Table C8: Seismic performance category C1 of rebar

Size		Ø10	Ø12	Ø16	Ø20	Ø25	Ø32
Tension load							
Steel failure							
Rebar BSt 500 S	$N_{Rk,s,eq,C1}$ [kN]	43	62	111	173	270	442
Partial safety factor	γ_{Ms} [-]	1,4					
Combined pullout and concrete cone failure in concrete C20/25 for a working life of 50 years and 100 years							
Temperature T3: -40°C to +70°C	$\tau_{Rk,p,eq,C1}$ [N/mm ²]	9,4	9,8	9,5	8,8	8,0	5,3
Dry and wet concrete							
Installation safety factor	γ_{inst} [-]	1,0					
Flooded hole							
Installation safety factor	γ_{inst} [-]	1,2					
Shear load							
Steel failure without lever arm							
Rebar BSt 500 S	$V_{Rk,s,eq,C1}$ [kN]	16	23	41	69	67	111
Partial safety factor	γ_{Ms} [-]	1,5					
Factor for annular gap	α_{gap} [-]	0,5					

Performances

Seismic performance category C1 of rebar

Annex C 7**Annex C 8 Performances**

Seismic performance category C2 of threaded rod

Table C9: Seismic performance category C2 of threaded rod

Size		M12	M16	M20
Tension load				
Steel failure				
Characteristic resistance grade 4.6	$N_{Rk,s,eq,C2}$ [kN]	34	63	98
Partial safety factor	γ_{Ms} [-]	2,00		
Characteristic resistance grade 4.8	$N_{Rk,s,eq,C2}$ [kN]	34	63	98
Partial safety factor	γ_{Ms} [-]	1,50		
Characteristic resistance grade 5.8	$N_{Rk,s,eq,C2}$ [kN]	42	79	123
Partial safety factor	γ_{Ms} [-]	1,50		
Characteristic resistance grade 8.8	$N_{Rk,s,eq,C2}$ [kN]	67	126	196
Partial safety factor	γ_{Ms} [-]	1,50		
Characteristic resistance grade 10.9	$N_{Rk,s,eq,C2}$ [kN]	84	157	245
Partial safety factor	γ_{Ms} [-]	1,33		
Characteristic resistance A2-70, A4-70	$N_{Rk,s,eq,C2}$ [kN]	59	110	172
Partial safety factor	γ_{Ms} [-]	1,87		
Characteristic resistance A4-80	$N_{Rk,s,eq,C2}$ [kN]	67	126	196
Partial safety factor	γ_{Ms} [-]	1,60		
Characteristic resistance 1.4529	$N_{Rk,s,eq,C2}$ [kN]	59	110	172
Partial safety factor	γ_{Ms} [-]	1,50		
Characteristic resistance 1.4565	$N_{Rk,s,eq,C2}$ [kN]	59	110	172
Partial safety factor	γ_{Ms} [-]	1,87		
Combined pullout and concrete cone failure in concrete C20/25 for a working life of 50 years and 100 years				
Characteristic bond resistance				
Temperature T3: -40°C to +70°C	$\tau_{Rk,p,eq,C2}$ [N/mm ²]	3,5	4,0	4,5
Installation safety factor	γ_{inst} [-]	1,0		
Performances				Annex C 8
Seismic performance category C2 of threaded rod				

INTERNAL

Déclaration de Performances

Sika AnchorFix®-3030

25601660

2024.12 , ver. 1

1138

19/22

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Table C9 (cont): Seismic performance category C2 of threaded rod

Shear load					
Steel failure without lever arm					
Characteristic resistance grade 4.6	$V_{Rk,s,eq,C2}$	[kN]	13	18	28
Partial safety factor	γ_{Ms}	[-]		1,67	
Characteristic resistance grade 4.8	$V_{Rk,s,eq,C2}$	[kN]	13	18	28
Partial safety factor	γ_{Ms}	[-]		1,25	
Characteristic resistance grade 5.8	$V_{Rk,s,eq,C2}$	[kN]	16	22	35
Partial safety factor	γ_{Ms}	[-]		1,25	
Characteristic resistance grade 8.8	$V_{Rk,s,eq,C2}$	[kN]	25	36	56
Partial safety factor	γ_{Ms}	[-]		1,25	
Characteristic resistance grade 10.9	$V_{Rk,s,eq,C2}$	[kN]	32	45	70
Partial safety factor	γ_{Ms}	[-]		1,50	
Characteristic resistance A2-70, A4-70	$V_{Rk,s,eq,C2}$	[kN]	22	31	49
Partial safety factor	γ_{Ms}	[-]		1,56	
Characteristic resistance A4-80	$V_{Rk,s,eq,C2}$	[kN]	25	36	56
Partial safety factor	γ_{Ms}	[-]		1,33	
Characteristic resistance 1.4529	$V_{Rk,s,eq,C2}$	[kN]	22	31	49
Partial safety factor	γ_{Ms}	[-]		1,25	
Characteristic resistance 1.4565	$V_{Rk,s,eq,C2}$	[kN]	22	31	49
Partial safety factor	γ_{Ms}	[-]		1,56	
Characteristic shear load resistance $V_{Rk,s,eq}$ in the Table C9 shall be multiplied by following reduction factor for hot-dip galvanized commercial standard rods					
Reduction factor for hot-dip galvanized rods	$\alpha_{v,h-dg,c2}$	[-]	0,46	0,61	0,61
Factor for annular gap	α_{gap}	[-]		0,5	

Table C10: Displacement under tensile and shear load - seismic category C2 of threaded rod

Size		M12	M16	M20
$\delta_{N,eq}(DLS)$	[mm]	0,20	0,40	0,77
$\delta_{N,eq}(ULS)$	[mm]	0,76	0,74	1,68
$\delta_{V,eq}(DLS)$	[mm]	5,29	4,12	4,94
$\delta_{V,eq}(ULS)$	[mm]	10,20	9,05	10,99

The anchor shall be used with minimum rupture elongation after fracture A_5 equal to 19%.

Performances

Seismic performance category C2 of threaded rod

Annex C 8

EAD 330499-01-0601:2018

Organisme Notifié 1020

Scellement chimique de tiges filetées pour utilisation dans du béton fissuré et non fissuré pour une durée de vie de 50 et/ou 100 ans

<http://dop.sika.com>

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MARQUAGE CE A PLACER SUR L'ETIQUETTE


21
Sika Services AG, Zurich, Switzerland
25601660
Pour plus d'informations, se référer aux documents d'accompagnement
EAD 330499-01-0601:2018
Organisme Notifié 1020
Scellement chimique de tiges filetées pour utilisation dans du béton fissuré et non fissuré pour une durée de vie de 50 et/ou 100 ans

<http://dop.sika.com>

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