CE DECLARATION OF PERFORMANCE

According to Construction Product Regulation n° 305/2011

DoP N°09/0140

1. **Unique identification code of the product-type:**
   Point 430 Vinyl Fix

2. **Type, batch or serial number or any other element allowing identification of the construction product as required pursuant to Article 11(4):**
   BCR + content in ml + V PLUS. Example BCR 400 V PLUS

3. **Intended use or uses of the construction product, in accordance with the applicable harmonized technical specification, as foreseen by the manufacturer:**

Generic type and use		Bonded anchor for anchorage of threaded rod							
Size covered		M8	M10	M12	M16	M20	M24	M27	M30
hef [mm]	**min**	60	70	80	100	120	145	145	145
	max	160	200	240	320	400	480	540	600

Generic type and use		Bonded anchor for anchorage of rebars with improved adhesion								
Size covered		∅8	∅10	∅12	∅14	∅16	∅20	∅25	∅28	∅32
hef [mm]	**min**	60	70	80	80	100	120	150	180	200
	max	160	200	240	280	320	400	500	560	640

Base material and strength class	Reinforced or unreinforced normal weight concrete of strength class C20/25 at minimum to C50/60 at maximum according to EN 206-1.
Base material condition	Non cracked from M8 to M30 e da Ø8 a Ø32, cracked from M10 to M20. Seismic category C1 from M12 to M20 and seismic category C2 for M12 and M16.
Anchor metal material and corresponding environmental exposure	Threaded rod: X1) Structures subject to dry internal conditions: elements made of galvanized steel (galvanized or hot galvanized) and stainless steel A2, A4 or high corrosion resistance steel (HCR). X2) Structures subject to external atmospheric exposure (including industrial and marine environment) and permanently wet internal conditions, if there are no particular aggressive conditions: Elements made of A4 stainless steel or high corrosion resistance steel (HCR). X3) Structures subject to external atmospheric exposure (including industrial and marine environment) and to permanently wet internal conditions, if other particular aggressive conditions exist. Such particularly aggressive conditions are eg. permanent immersion, alternating in sea water or in the sea water spray area, chloride atmosphere of swimming pools or indoor environments with chemical pollution (eg in desulphurisation plants or road tunnels where de-icing materials are used): Elements made of corrosion-resistant steel (HCR) Bars with improved adhesion class B or C according to EN 1992-1-1.

Type of loading	Static or quasi-static loading and seismic category C1 and C2.
Service temperature range	a) -40°C to +40°C (max. short term temperature +40°C and max. long term temperature +24°C), b) -40°C to +80°C (max. short term temperature +80°C and max. long term temperature +50°C), c) -40°C to +120°C (max. short term temperature +120°C and max. long term temperature +72°C).
Use category	Category 1 and 2: dry and wet concrete and flooded hole. Overhead installation is allowed. Perforation with hammer drilling machine or hollow drill bit

4. **Name, registered trade name or registered trade mark and contact address of the manufacturer as required pursuant to Article 11(5):**
   UAB „TEGRA STATE", Kirtimų g. 67, LT-02244 Vilnius
   Tel./faksas +370 5 266 11 67, www.tegra.lt, www.tegrastate.lt

5. **Where applicable, name and contact address of the authorized representative whose mandate covers the tasks specified in Article 12(2):**
   Not applicable

6. **System or systems of assessment and verification of constancy of performance of the construction product as set out in Annex V:**
   System 1

7. **In case of the declaration of performance concerning a construction product covered by a harmonized standard:**
   Not applicable

8. **In case of the declaration of performance concerning a construction product for which a European Technical Assessment has been issued:**
   ITB issued ETA-09/0140 on the basis of EAD 330499-01-0601.
   ITB (n°1488) performed:
   the determination of the product type on the basis of type testing (including sampling), type calculation, tabulated values or descriptive documentation of the product; the initial inspection of the factory and of the factory production control; the continuous surveillance; assessment and approval of the factory production control; under system 1 and issue the certificate of conformity n° 1488-CPR-0119/W.

9. **Declared performance:**

HARMONIZED TECHNICAL SPECIFICATION: EAD 330499-01-0601								
ESSENTIAL CHARACTERISTICS	**PERFORMANCE ACCORDING TO ETA-09/0140**							
Installation parameters	**M8**	**M10**	**M12**	**M16**	**M20**	**M24**	**M27**	**M30**
d [mm]	8	10	12	16	20	24	27	30
d_0 [mm]	10	12	14	18	24	28	30	35
d_{fix} [mm]	9	12	14	18	22	26	30	33
h_1 [mm]	h_{ef} + 5 mm							
h_{min} [mm]	MAX { h_{ef} + 30 mm; ≥ 100 mm; h_{ef} + 2d_0 }							
T_{Fix} [Nm]	10	20	40	80	130	200	250	280
t_{fix} [mm]	da 0 a 1500 mm							
S_{min} e C_{min} [mm]	40	50	60	75	100	115	120	140
γ_{inst} [-]Category I1	1,00							
γ_{inst} [-]Category I2	1,20							

Resistance for tensile load Characteristic steel resistance	**M8**	**M10**	**M12**	**M16**	**M20**	**M24**	**M27**	**M30**
Steel class 4.8 $N_{Rk,s}$ [kN]	15	23	34	63	98	141	183	224
Steel class 5.8 $N_{Rk,s}$ [kN]	18	29	42	78	122	176	229	280
Steel class 8.8 $N_{Rk,s}$ [kN]	29	46	67	126	196	282	367	449
Steel class 10.9 $N_{Rk,s}$ [kN]	37	58	84	157	245	353	459	561
Stainless steel A2, A4, HCR class 50 $N_{Rk,s}$ [kN]	18	29	42	78	122	176	229	280
Stainless steel A2, A4, HCR class 70 $N_{Rk,s}$ [kN]	26	41	59	110	171	247	321	392
Stainless steel A4, HCR class 80 $N_{Rk,s}$ [kN]	29	46	67	126	196	282	367	449

HARMONIZED TECHNICAL SPECIFICATION: EAD 330499-01-0601								
ESSENTIAL CHARACTERISTICS	**PERFORMANCE ACCORDING TO ETA-09/0140**							
Resistance for shear load Characteristic steel resistance without level arm	**M8**	**M10**	**M12**	**M16**	**M20**	**M24**	**M27**	**M30**
Steel class 4.8 $V^0_{Rk,s}$ [kN]	7	12	17	31	49	71	92	112
Steel class 5.8 $V^0_{Rk,s}$ [kN]	9	14	21	39	61	88	115	140
Steel class 8.8 $V^0_{Rk,s}$ [kN]	15	23	34	63	98	141	184	224
Steel class 10.9 $V^0_{Rk,s}$ [kN]	18	29	42	78	122	176	230	280
Stainless steel A2, A4, HCR class 50 $V^0_{Rk,s}$ [kN]	9	14	21	39	61	88	115	140
Stainless steel A2, A4, HCR class 70 $V^0_{Rk,s}$ [kN]	13	20	29	55	86	124	160	196
Stainless steel A4, HCR class 80 $V^0_{Rk,s}$ [kN]	15	23	34	63	98	141	184	224
k_7	1,0							
Resistance for shear load Characteristic steel resistance with level arm	**M8**	**M10**	**M12**	**M16**	**M20**	**M24**	**M27**	**M30**
Steel class 4.8 $M^0_{Rk,s}$ [Nm]	15	30	52	133	260	449	666	900
Steel class 5.8 $M^0_{Rk,s}$ [Nm]	19	37	66	166	324	561	832	1125
Steel class 8.8 $M^0_{Rk,s}$ [Nm]	30	60	105	266	519	898	1331	1799
Steel class 10.9 $M^0_{Rk,s}$ [Nm]	37	75	131	333	649	1123	1664	2249
Stainless steel A2, A4, HCR class 50 $M^0_{Rk,s}$ [Nm]	19	37	66	166	324	561	832	1125
Stainless steel A2, A4, HCR class 70 $M^0_{Rk,s}$ [Nm]	26	52	92	233	454	786	1165	1574
Stainless steel A4, HCR class 80 $M^0_{Rk,s}$ [Nm]	30	60	105	266	519	898	1331	1799
Resistance for tensile load Characteristic resistance for combined pullout and concrete cone failure	**M8**	**M10**	**M12**	**M16**	**M20**	**M24**	**M27**	**M30**
$\tau R_{k,ucr}$ [N/mm²] concrete C20/25 Temperature range -40°C/+40°C (T_{mlp} = 24°C)	16,0	12,0	12,0	12,0	9,5	9,5	8,0	8,0
$\tau R_{k,ucr}$ [N/mm²] concrete C20/25 Temperature range -40°C/+80°C (T_{mlp} = 50°C)	11,0	8,5	8,5	8,5	7,0	7,0	6,0	6,0
$\tau R_{k,ucr}$ [N/mm²] concrete C20/25 Temperature range -40°C/+120°C (T_{mlp} = 72°C)	6,0	4,5	4,5	4,5	4,0	4,0	3,0	3,0
$\tau R_{k,cr}$ [N/mm²] cracked concrete C20/25 Temperature range -40°C/+40°C (T_{mlp} = 24°C)	-	9,0	9,0	9,0	6,5	-	-	-
$\tau R_{k,cr}$ [N/mm²] cracked concrete C20/25 Temperature range -40°C/+80°C (T_{mlp} = 50°C)	-	6,5	6,5	6,5	4,5	-	-	-

$\tau R_{k,cr}$ [N/mm²] cracked concrete C20/25 Temperature range -40°C/+120°C (T_{mlp} = 72°C)		-	3,5	3,5	3,5	2,5	-	-	-
$\psi_{c,uc/ucr}$ C30/37 [-]		1,12							
$\psi_{c,uc/ucr}$ C40/50 [-]		1,23							
$\psi_{c,uc/ucr}$ C50/60 [-]		1,30							
Resistance for tensile load Characteristic resistance for concrete cone failure		**M8**	**M10**	**M12**	**M16**	**M20**	**M24**	**M27**	**M30**
$k_{ucr,N}$		11,0							
$k_{cr,N}$		7,7							
$C_{cr,N}$		1,5 h_{ef}							
$S_{cr,N}$		3,0 h_{ef}							
Resistance for tensile load Characteristic resistance for splitting failure		**M8**	**M10**	**M12**	**M16**	**M20**	**M24**	**M27**	**M30**
$C_{cr,sp}$ [mm]	se $h = h_{min}$	2,5 h_{ef}		2,0 h_{ef}		1,5 h_{ef}			
	se $h_{min} < h < 2\ h_{min}$	interpolated value							
	se $h \geq 2\ h_{min}$	$C_{cr,Np}$							
$S_{cr,sp}$ [mm]		2,0 $C_{cr,sp}$							

HARMONIZED TECHNICAL SPECIFICATION: EAD 330499-01-0601								
ESSENTIAL CHARACTERISTICS	**PERFORMANCE ACCORDING TO ETA-09/0140**							
Resistance for shear load Characteristic resistance for concrete pry-out failure	**M8**	**M10**	**M12**	**M16**	**M20**	**M24**	**M27**	**M30**
k_g [-]	2,0							
Resistance for shear load Characteristic resistance for edge failure	**M8**	**M10**	**M12**	**M16**	**M20**	**M24**	**M27**	**M30**
l_f [mm]	$l_f = h_{ef}$ and $\leq 12\ d_{nom}$						lf=h_{ef} and ≤ max (8d_{nom};,300mm)	
Displacement under service load Tensile load	**M8**	**M10**	**M12**	**M16**	**M20**	**M24**	**M27**	**M30**
F_{unc} [kN] for concrete from C20/25 to C50/60	9,6	10,8	14,3	23,8	29,6	42,4	40,4	44,4
$\delta_{0,unc}$ [mm]	0,30	0,30	0,35	0,35	0,35	0,40	0,40	0,45
$\delta_{\infty,c}$ [mm]	0,85							
Fcr [kN] for concrete from C20/25 to C50/60	-	9,5	14,3	21,4	23,8	-	-	-
$\delta_{0,cr}$ [mm]	-	0,50	0,50	0,70	0,60	-	-	-
$\delta_{\infty,cr}$ [mm]	-		0,85		-			
Displacement under service load Shear load	**M8**	**M10**	**M12**	**M16**	**M20**	**M24**	**M27**	**M30**
$F_{unc/cr}$ [kN] for concrete from C20/25 to C50/60	3,7	5,8	8,4	15,7	24,5	35,3	45,5	55,6
$\delta_{0,unc/cr}$ [mm]	2,00							
$\delta_{\infty,unc/cr}$ [mm]	3,00							

HARMONIZED TECHNICAL SPECIFICATION: EAD 330499-01-0601									
ESSENTIAL CHARACTERISTICS			**PERFORMANCE ACCORDING TO ETA-09/0140**						
Installation parameters	**Ø8**	**Ø10**	**Ø12**	**Ø14**	**Ø16**	**Ø20**	**Ø25**	**Ø28**	**Ø32**
d [mm]	8	10	12	14	16	20	25	28	32
d_0 [mm]	10*-12	12*-14	14*-16	18	20	25	30	35	40
h_1 [mm]	h_{ef} + 5 mm								
h_{min} [mm]	MAX { h_{ef} + 30 mm; ≥ 100 mm; h_{ef} + 2_{d0} }								
S_{min} e C_{min} [mm]	50	60	65	75	80	100	120	140	160
γ_{inst} [-]Category I1	1,00								
γ_{inst} [-]Category I2	1,20								
Resistance for tensile load Characteristic steel resistance	**Ø8**	**Ø10**	**Ø12**	**Ø14**	**Ø16**	**Ø20**	**Ø25**	**Ø28**	**Ø32**
$N_{Rk,s}$ [kN]	A_s x f_{uk}								
A_s [mm²]	50	79	113	154	201	314	491	616	804
Resistance for tensile load Characteristic resistance for combine pullout and concrete cone failure	**Ø8**	**Ø10**	**Ø12**	**Ø14**	**Ø16**	**Ø20**	**Ø25**	**Ø28**	**Ø32**
$\tau_{Rk,ucr}$ [N/mm²] concrete C20/25 Temperature range -40°C/+40°C (T_{mlp} = 24°C)	14,0	13,0	13,0	12,0	10,0	9,5	9,5	8,5	7,5
$\tau_{Rk,ucr}$ [N/mm²] concrete C20/25 Temperature range -40°C/+80°C (T_{mlp} = 50°C)	10,0	9,5	9,0	9,0	7,5	7,0	7,0	6,0	5,5
$\tau_{Rk,ucr}$ [N/mm²] concrete C20/25 Temperature range -40°C/+120°C (T_{mlp} = 72°C)	5,5	5,0	5,0	5,0	4,0	4,0	4,0	3,5	3,0
$\psi_{c,uc/ucr}$ C30/37 [-]	1,12								
$\psi_{c,uc/ucr}$ C40/50 [-]	1,23								
$\psi_{c,uc/ucr}$ C50/60 [-]	1,30								
Resistance for tensile load Characteristic resistance for concrete cone failure	**Ø8**	**Ø10**	**Ø12**	**Ø14**	**Ø16**	**Ø20**	**Ø25**	**Ø28**	**Ø32**
$k_{ucr,N}$	11,0								
$C_{cr,N}$	1,5 h_{ef}								
$S_{cr,N}$	3,0 h_{ef}								
Resistance for tensile load Characteristic resistance for splitting failure	**Ø8**	**Ø10**	**Ø12**	**Ø14**	**Ø16**	**Ø20**	**Ø25**	**Ø28**	**Ø32**
$C_{cr,sp}$ [mm] se h = h_{min}	2,5 h_{ef}		2,0 h_{ef}			1,5 h_{ef}			
$C_{cr,sp}$ [mm] se h_{min} < h < 2 h_{min}	interpolated value								
$C_{cr,sp}$ [mm] se h ≥ 2 h_{min}	$C_{cr,Np}$								
$S_{cr,sp}$ [mm]	2,0 $C_{cr,sp}$								

Resistance for shear load Characteristic steel resistance without level arm	**Ø8**	**Ø10**	**Ø12**	**Ø14**	**Ø16**	**Ø20**	**Ø25**	**Ø28**	**Ø32**
$V_{Rk,s}$ [kN]	$0,5 \times A_s \times f_{uk}$ [2)]								
k_7	1,0								
Resistance for shear load Characteristic steel resistance with level arm	**Ø8**	**Ø10**	**Ø12**	**Ø14**	**Ø16**	**Ø20**	**Ø25**	**Ø28**	**Ø32**
Characteristic bending moment $M^0_{Rk,s}$ [Nm]	$1,2 \times W_{el} \times f_{uk}$ [2)]								
Elastic section modulus W_{el} [mm³]	50	98	170	269	402	785	1534	2155	3217
Resistance for shear load Characteristic resistance for concrete pry-out failure	**Ø8**	**Ø10**	**Ø12**	**Ø14**	**Ø16**	**Ø20**	**Ø25**	**Ø28**	**Ø32**
k_8 [-]	2,0								
Resistance for shear load Characteristic resistance for edge failure	**Ø8**	**Ø10**	**Ø12**	**Ø14**	**Ø16**	**Ø20**	**Ø25**	**Ø28**	**Ø32**
l_f [mm]	$l_f = h_{ef}$ and $\leq 12\ d_{nom}$						$l_f = h_{ef}$ and $\leq$ max ($8d_{nom}$;,300mm)		

[2)] f_{uk} shall be taken from the specifications of reinforcing bars

TECHNICAL SPECIFICATION: EAD 330499-01-0601									
ESSENTIAL CHARACTERISTICS			**PERFORMANCE ACCORDING TO ETA-09/0140**						
Displacement under service load Tensile load	**Ø8**	**Ø10**	**Ø12**	**Ø14**	**Ø16**	**Ø20**	**Ø25**	**Ø28**	**Ø32**
F_{unc} [kN] for concrete from C20/25 to C50/60	10,1	13,6	17,2	20,1	23,9	41,2	53,3	64,1	67,3
$\delta_{0,unc}$ [mm]	0,33	0,33	0,40	0,41	0,42	0,45	0,45	0,47	0,48
$\delta_{\infty,unc}$ [mm]	0,85								
Displacement under service load Shear load	**Ø8**	**Ø10**	**Ø12**	**Ø14**	**Ø16**	**Ø20**	**Ø25**	**Ø28**	**Ø32**
$F_{unc/cr}$ [kN] for concrete from C20/25 to C50/60	13,2	20,6	29,6	40,3	52,7	82,3	128,6	161,3	210,6
$\delta_{0,unc/cr}$ [mm]	2,00								
$\delta_{\infty,unc/cr}$ [mm]	3,00								

*Perforation with reduced drill diameter

HARMONIZED TECHNICAL SPECIFICATION: TR049 ASSESSMENT FOR SEISMIC CATEGORY C1			
ESSENTIAL CHARACTERISTICS	**PERFORMANCE ACCORDING TO ETA-09/0140**		
Resistance for tensile load Characteristic steel resistance (threaded rods class 10.9 are not qualified for the C1 seismic category)	**M12**	**M16**	**M20**
$N_{Rk,s,C1}$ [kN]	$1,0 \times N_{Rk,s}$		
Resistance for tensile load Characteristic resistance for combined pullout and concrete cone failure	**M1 2**	**M16**	**M20**
$\tau_{Rk,C1}$ [N/mm^2] concrete C20/25 Temperature range-40°C/+40°C (T_{mlp} = 24°C)	4,2	3,7	3,7
$\tau_{Rk,C1}$ [N/mm^2] concrete C20/25 Temperature range-40°C/+80°C (T_{mlp} = 50°C)	3,0	2,7	2,7
$\tau_{Rk,C1}$ [N/mm^2] concrete C20/25 Temperature range-40°C/+120°C (T_{mlp} = 72°C)	1,6	1,4	1,4
$\psi_{c,cr}$ C30/37 [-]	1,00		
$\psi_{c,cr}$ C40/50 [-]	1,00		
$\psi_{c,cr}$ C50/60 [-]	1,00		
γ_{inst} [-]Category I1	1,0		
γ_{inst} [-]Category I2	1,2		
Resistance for shear load Characteristic steel resistance without level arm (threaded rods class 10.9 are not qualified for the C1 seismic category)	**M12**	**M16**	**M20**
$V_{Rk,s,C1}$ [kN]	$0,7 \times V^0_{Rk,s}$		
Filling factor of the hole	**M12**	**M16**	**M20**
α_{gap} [-]	0,5 (1,0) [2)]		

[2)] Value in brackets valid for filled annular gap between anchor and clearance in the fixture.

HARMONIZED TECHNICAL SPECIFICATION: TR049 ASSESSMENT FOR SEISMIC CATEGORY C2		
ESSENTIAL CHARACTERISTICS	**PERFORMANCE ACCORDING TO ETA-09/0140**	
Resistance for tensile load Characteristic steel resistance (threaded rods class 10.9 are not qualified for the C2 seismic category)	**M12**	**M16**
$N_{Rk,s,C2}$ [kN]	$1,0 \times N_{Rk,s}$	
Resistance for tensile load Characteristic resistance for combined pullout and concrete cone failure	**M12**	**M16**
$\tau_{Rk,C2}$ [N/mm²] concrete C20/25 Temperature range -40°C/+40°C (T_{mlp} = 24°C)	1,6	1,7
$\tau_{Rk,C2}$ [N/mm²] concrete C20/25 Temperature range -40°C/+80°C (T_{mlp} = 50°C)	1,2	1,2
$\tau_{Rk,C2}$ [N/mm²] concrete C20/25 Temperature range -40°C/+120°C (T_{mlp} = 72°C)	0,6	0,7
$\psi_{c,cr}$ C30/37 [-]	1,00	
$\psi_{c,cr}$ C40/50 [-]	1,00	
$\psi_{c,cr}$ C50/60 [-]	1,00	
γ_{inst} [-]Category I1	1,0	
γ_{inst} [-]Category I2	1,2	
Resistance for shear load Characteristic steel resistance without level arm (threaded rods class 10.9 are not qualified for the C2 seismic category)	**M12**	**M16**
$V_{Rk,s,C2}$ [kN]	$0,53 \times V^0_{Rk,s}$	$0,46 \times V^0_{Rk,s}$
A_5	>19%	
Filling factor of the hole	**M12**	**M16**
α_{gap} [-]	0,5 (1,0) [2)]	

[2)] Value in brackets valid for filled annular gap between anchor and clearance in the fixture.

HARMONIZED TECHNICAL SPECIFICATION: TR049 ASSESSMENT FOR SEISMIC CATEGORY C2		
ESSENTIAL CHARACTERISTICS	**PERFORMANCE ACCORDING TO ETA-09/0140**	
Displacements for tensile and shear load for seismic category C2	**M12**	**M16**
Displacement in tensile at Damage limit state $\delta_{N,seis\ (DLS}$[mm]	0,20	0,23
Displacement in tensile at Ultimate limit state $\delta_{N,seis\ (ULS)}$ [mm]	0,33	1,04
Displacement in shear at Damage limit state $\delta_{V,seis\ (DLS)}$ [mm]	2,01	0,70
Displacement in shear at Ultimate limit state $\delta_{V,seis\ (ULS)}$ [mm]	4,68	2,12

HARMONIZED TECHNICAL SPECIFICATION: : EAD 330499-01-0601	
ESSENTIAL CHARACTERISTICS	**PERFORMANCE**
Reaction to fire	In the final application the thickness of the mortar layer is about 1 to 2 mm and most of the mortar is material classified class A1 according to EC Decision 96/603/EC. Therefore it may be assumed that the bonding material (synthetic mortar or a mixture of synthetic mortar and cementitious mortar) in connection with the metal anchor in the end use application do not make any contribution to fire growth or to the fully developed fire and they have no influence to the smoke hazard.

HARMONIZED TECHNICAL SPECIFICATION: EAD 330499-01-0601 AND TECHNICAL REPORT TR020	
ESSENTIAL CHARACTERISTICS	**PERFORMANCE**
Resistance to fire	NPA

TERMINOLOGY AND SYMBOLS	
d	Diameter of anchor bolt or thread diameter
d_0	Drill hole diameter
d_{fix}	Diameter of clearance hole in the fixture
h_{ef}	Effective anchorage depth
h_1	Depth of the drilling hole
h_{min}	Minimum thickness of concrete member
T_{Fix}	Torque moment to installation
t_{fix}	Thickness to be fixed
S_{min}	Minimum allowable spacing
C_{min}	Minimum allowable edge distance
$N_{Rk,s}$	Characteristic steel- tensile resistance for static load
$N_{Rk,s,C1}$	Characteristic steel- tensile resistance for C1 seismic category
$N_{Rk,s,C2}$	Characteristic steel- tensile resistance for C2 seismic category
$V_{Rk,s}$	Characteristic steel- shear resistance for static load
$V_{Rk,s,C1}$	Characteristic steel- shear resistance for C1 seismic category
$V_{Rk,s,C2}$	Characteristic steel- shear resistance for C2 seismic category
τ_{Rk}	Characteristic adhesion in non-cracked concrete (uncr), cracked (cr), seismic category C1 and C2
As	Transversal section area
A5	Fracture elongation
α_{gap}	Annular gap factor
$M^0_{Rk,s}$	Characteristic bending moment
W_{el}	Elastic section modulus
k_7	Ductility factor
k_8	Pryout factor
N_{Rk}	Characteristic resistance for pull-out and concrete cone for single anchor
γinst	Partial safety factors for installation

$S_{cr,Np}$	Spacing for ensuring the transmission of the characteristic resistance of a single anchor without spacing and edge effects in case of pullout failure
$C_{cr,Np}$	Edge distance for ensuring the transmission of the characteristic tensile resistance of a single anchor without spacing and edge effects in case of pullout failure
$k_{uncr,N}$	Un-Cracked coefficient
$k_{cr,N}$	Cracked coefficient
$S_{cr,N}$	Spacing for ensuring the transmission of the characteristic tensile resistance of a single anchor without spacing and edge effects in case of concrete cone failure
$C_{cr,N}$	Edge distance for ensuring the transmission of the characteristic tensile resistance of a single anchor without spacing and edge effects in case of concrete cone failure
$S_{cr,sp}$	Spacing for ensuring the transmission of the characteristic tensile resistance of a single anchor without spacing and edge effects in case of splitting failure
$C_{cr,sp}$	Edge distance for ensuring the transmission of the characteristic tensile resistance of a single anchor without spacing and edge effects in case of splitting failure
$\psi_{c,ucr}$	Increasing factor for un-cracked concrete
$\psi_{c,cr}$	Increasing factor for cracked concrete
l_f	Effective length
F	Service load in un-cracked (ucr) or cracked concrete (cr)
δ_0	Short term displacement under service load in un-cracked (uncr) or cracked concrete (cr)
δ_∞	Long term displacement under service load in un-cracked (uncr) or cracked concrete (cr)
NPA	No declared performance

Regulamentation REACH n°1907/2006

Estimate customer,
We inform you that in the REACH supply chain our company is classified as DU: Downstream-user.
About the product detailed in the point 1 we confirm you that we don't use in our production substances classified as SVHC according to the Candidate List published on ECHA site web:
http://echa.europa.eu/chem_data/candidate_list_table_en.asp.
You can require the safety data sheet of the product to our technical department: info@tegra.lt or you can download the document from our web site www.tegrastate.lt.

10. The performance of the product identified in points 1 and 2 is in conformity with the declared performance in point 9. This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4. Signed for and on behalf of the manufacturer by:

Robertas Matusevičius
Product Manager

2022-10-04
Vilnius, Lithuania