

Declaration of Performance 1020-CPD-090-027393

valid from LOT no: see final page of this document

MIT-COOL bonded anchor

(Bonded anchor with anchor rod of sizes M8-M30 for use in non-cracked concrete)

Intended use or uses of the construction product according to ETAG 001 parts 1 and 5	
Generic type	Bonded anchor for anchorage of threaded rod.
Base material	Un-cracked concrete C20/25 to C50/60 acc. to EN 206:2000-12;
Material	a) Carbon galvanized steel class 5.8 and 8.8 according to EN ISO 898-1 for dry internal conditions. b) Stainless steel A4-70 according to EN ISO 3506 for dry internal conditions, external atmospheric exposure (including industrial and marine environment) or exposure in permanently damp internal conditions if no particular aggressive conditions exist. c) High resistant corrosion stainless steel (HCR) according to EN ISO 3506 for all conditions.
Durability	internal dry conditions and external conditions (stainless steel)
Loading	static, quasi-static
Service temperature range	Temperature range I: -40°C to +80°C (max. short term temperature +80°C and max. long term temperature +50°C).
Use category	Dry and wet concrete: all diameters. Flooded hole: M8-M24. Overhead installation is allowed. Perforation with hammer drilling machine.
Fire Resistance	-
Fire Reaction	-
ETA – 12/0194 issued by	ZÚS, Technický A Zkušební Ústav Stavební Praha
On the basis of	ETAG 001-01
Certificate of Conformity 1020-CPD-090-027393 issued by	ZÚS, Technický A Zkušební Ústav Stavební Praha
Under AVCP System	1

Declared performances for threaded rod M8-M30

Declared performances according to ETAG 001 parts 1 and 5									
Essential characteristics			Performance						
			M8	M10	M12	M16	M20	M24	M30
Installation parameters									
d	Diameter of thread diameter	[mm]	8	10	12	16	20	24	30
d ₀	Nominal diameter of drill bit	[mm]	10	12	14	18	24	28	35
h _{eff}	Minimum effective anchorage depth	[mm]	64	80	96	128	160	192	240
	Maximum effective anchorage depth	[mm]	160	200	240	320	400	480	600
h ₁	Depth of the drilling hole	[mm]	= h _{eff}						
h _{min}	Minimum thickness of the concrete member	[mm]	h _{eff} + 30mm ≥ 100mm			h _{eff} + 2d ₀			
T _{inst}	Nominal torque moment	[Nm]	10	20	40	80	150	200	275
s _{min}	Minimum spacing	[mm]	80	100	120	160	200	240	300
c _{min}	Minimum edge distance	[mm]	80	100	120	160	200	240	300

Pull-out failure mode									
			M8	M10	M12	M16	M20	M24	M30
$\tau_{Rk,ucr}$	Characteristic bond resistance in dry and wet un-cracked concrete class C20/25 temperature range I	[N/mm ²]	11	10	9.5	9	8.5	8	5.5
$\gamma_{MS,N}$	Partial safety factor	[-]	1.5						1.8
$\tau_{Rk,ucr}$	Characteristic bond resistance in flooded hole un-cracked concrete class C20/25 temperature range I	[N/mm ²]	9	8	7.5	7	7	6	-
$\gamma_{MS,N}$	Partial safety factor	[-]	2.1						-
$\psi_{c,ucr}$ C50/60 [-]	Increasing factor for un-cracked concrete	[-]	1						
Resistance for splitting failure									
$s_{cr,sp}$	Critical spacing (splitting)	[mm]	3 h_{ef}						
$c_{cr,sp}$	Critical edge distance (splitting)	[mm]	1.5 h_{ef}						
Displacement under Tension Load									
Displacement for tension load Temp range I									
δ_{N0}	Short term displacement under tension load	[mm/Nmm ²]	0.3	0.3	0.3	0.3	0.4	0.5	0.5
$\delta_{N\infty}$	Long term displacement under tension load	[mm/Nmm ²]	0.5	0.5	0.5	0.5	0.5	0.5	0.5
$V_{Rk,s}$	Shear Steel char. failure prop. class 5.8	[kN]	9	15	21	39	61	88	115
$V_{Rk,s}$	Shear Steel char. failure prop. class 8.8	[kN]	15	23	34	63	98	141	184
$V_{Rk,s}$	Shear Steel char. failure prop. class A4/HCR	[kN]	13	20	30	55	86	124	115
$M^0_{Rk,s}$	Bending Moment char. failure prop. class 5.8	[Nm]	19	37	65	166	324	560	833
$M^0_{Rk,s}$	Bending Moment char. failure prop class 8.8	[Nm]	30	60	105	266	519	896	1333
$M^0_{Rk,s}$	Bending Moment char. failure prop class	[Nm]	26	52	92	323	454	784	832
$\gamma_{m,sV}$	Partial safety factor for shear steel failure 5.8/8.8	[-]	1.25						
$\gamma_{m,sV}$	Partial safety factor for shear steel failure A4	[-]	1.56						
$\gamma_{m,sV}$	Partial safety factor for shear steel failure HCR	[-]	1.25						
Shear Concrete Edge failure mode									
k	Factor for concrete edge failure	[-]	2						
Displacement under Shear Load									
δ_{V0}	Short term displacement under shear load	[mm/kN]	1.5	1.5	1.5	1.5	2.0	2.5	2.5
$\delta_{V\infty}$	Long term displacement under shear load	[mm/kN]	2.3	2.3	2.3	2.3	3.0	3.8	3.8

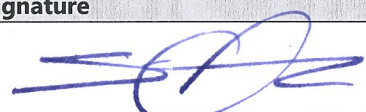
The below performances apply for the following article numbers:

Content	Art Nr	Lot No
300ml	1710002	05_2014
	17100020	
400ml	1710004	04_2014
	17100040	04_2014

The performances of the product identified in the declaration of performance are in conformity with the declared performance, only if a 3.1 steel-mill certificate can be provided for each production LOT of threaded bar that has been used in combination with the bonded anchor.

This declaration of performance is issued under the sole responsibility of Mungo AG.

Signed for and on behalf of the manufacturer by:

Name and functions	Place and date of issue	Signature
Arnold Schefer Owner and CEO	Olten, 4.6.2013	

Further information:

Liability for printing errors is excluded. The full content of the corresponding ETA has to be observed.