

CF 1000

Epoxy resin chemical anchoring system for rebar application in concrete

CHARACTERISTICS

- ▶ High chemical resistance
- ▶ Flexible working time at elevated temperatures
- ▶ Good wetting ability
- ▶ Flexible setting the bore diameter/angular gap
- ▶ Good performance in diamond driller holes
- ▶ No shrinkage
- ▶ Performance approved by the independent institute EMPA (report no. 431 899 1)
- ▶ Strong and secure anchoring even under water

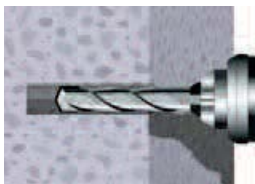


FIELDS OF APPLICATION

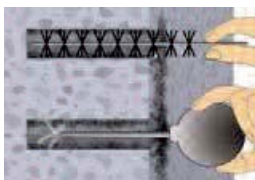
- For Concrete
- For Building works of reconstruction and renovation
- For difficult anchoring in each kind of material

APPLICATION INSTRUCTIONS

1.) Concrete, Solid stone



1. Drill hole with percussion drill



2. Clean drill hole (blowout: 4x, brush out: 4x, blow out: 4x)



3. Screw mixer to cartridge



TDS_Pattex CF 1000_GCC_0519

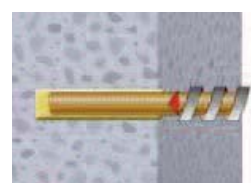
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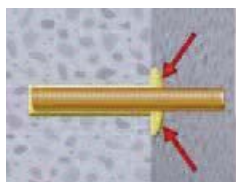
4. Squeeze out and discard approx. 10 cm of compound before use



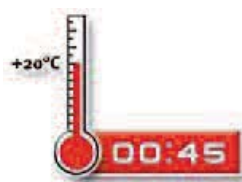
5. Starting from the back end, fill hole completely with mortar



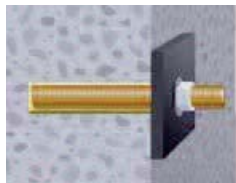
6. Push anchor up to base of hole whilst turning it slightly



7. Visual check of mortar filling



8. Observe hardening time



9. Install component, apply torque

PERFORMANCE DATA / HOLLOW BRICK WITH STANDARD SLEEVE

DESIGN VALUES:

Resin	Concerte			M8	M10	M12	M16	M20
Tension loads	$\geq C20/25$	N_{Rk}	[kN]	26.4	37.2	54.5	82.6	124.7
		N_{Rd}	[kN]	14.7	20.6	30.3	45.9	69.3
Safety factor for tension loads 1,8 acc. to ETAG								
		V_{Rk}	[kN]	9.9	15.8	22.9	43.2	67.5
Steel quality 5.8	V_{Rd}	[kN]	7.9	12.6	18.3	34.6	54.0	
Share loads	Steel quality A4		rec.torque	12.9	25.6	44.8	113.7	222.9
		V_{Rk}	[kN]	13.8	22.1	32.0	60.5	94.5
		V_{Rd}	[kN]	8.9	14.1	20.5	38.8	60.6
			rec.torque	12	23.9	41.9	106.7	207.9
Safety factor for share loads 1.56 according to ETAG								

RECOMMENDED LOADS:

Resin	Concerte			M8	M10	M12	M16	M20
Recommended Load in every Direction	$\geq C20/25$	F_{rec}	[kN]	10.5	14.7	21.6	32.8	49.5

INSTALLATION PARAMETERS

Edge distance	$C_{cr,N}$	[mm]	80	90	110	130	170
Min edge distance	C_{min}	[mm]	40	50	60	70	90
Axial distance	$S_{cr,N}$	[mm]	160	180	220	250	340
Min axial distance	S_{min}	[mm]	80	90	110	125	170
Anchorage depth	h_{ef}	[mm]	80	90	110	125	170
Minimum part thickness	h_{min}	[mm]	130	140	160	175	220
Thread diameter	d	[mm]	8	10	12	16	20
Drill diameter	d_B	[mm]	10	12	14	18	24
Hole diameter in part	d_{Bau}	[mm]	9	11	13.5	17.5	22
Tightening torque	$T_{inst.}$	[Nm]	10	20	40	60	120

REACTION CHARACTERISTICS

Static cartridges	Curing start	Curing end Dry concrete submerged	Curing end Wet or concrete
0°C	180Min.	50h	100h
10°C	120Min.	24h	48h
20°C	30Min.	10h	20
30°C	20Min.	6h	12h
40°C	12Min.	4h	8h

PERFORMANCE DATA FOR REBAR APPLICATION IN CONCRETE

PARAMETERS:

Rebar diameter	D _{rebar}	[mm]	8	10	12	14	16	18	20	22	25	28	32	36	40
Stress area	A _g	[mm ²]	50.3	78.5	113.1	153.9	201.1	254.5	314.2	380.2	490.9	615.8	804.2	1017.9	1256.6
Tensile strength	f _{uk}	[N/mm ²]	550												
Yield stress	f _{yk}	[N/mm ²]	500												
Hole diameter	min D	[mm]	10	12	16	18	20	22	25	28	30	35	40	42	48
	max D	[mm]	12	14	18	20	22	25	28	30	32	37	40	42	48
Embedment depth	min h _{gf}	[mm]	80	90	110	115	125	150	170	190	210	260	310	340	370
Recommended loads at h min			22	31	42	56	60	75	96	114	148	187	225	308	362

for detailed design calculations please contact Henkel technical office at 067671661

BONDING STRENGTH without influence of edge-and axial distance

Bonding strength	f _{b,m}	[N/mm ²]	23.1	23.1	23.1	23.1	23.1	21.5	20.1	18.9	17.4	16.2	14.9	13.8	12.9
Bonding strength	f _{b,k}	[N/mm ²]	15.7	15.7	15.7	15.7	15.7	14.6	13.6	12.8	11.8	11.0	10.1	9.4	8.8
Bonding strength	f _{b,d}	[N/mm ²]	7.3	7.3	7.3	7.3	7.3	6.8	6.3	5.9	5.5	5.1	4.7	4.4	4.1

1) f_{b,m} = Ultimate bonding strength

2) f_{b,k} = Characteristics value of the bonding strength

3) f_{b,d} = Design value of the bonding strength including the safely factor 2.16

Factor of the concrete strength f_{sc}

Factor for wet or submerged Concrete f_{wc}		
Strength class	C20/25	0.83
	C25/30	0.92
	C30/37	1.00
	C40/50	1.15

The basic anchorage length l_b can be calculated from

$$l_b = (0 \times f_{y,d}) / (4 \times f_{b,d} \times f_{sc})$$

with $f_{y,d}$ design yield strength of post installed rebar.

Factor for wet or submerged concrete f_{wc}

Factor for wet or submerged Concrete f_{wc}		
Dry Concrete	Wet Concrete	Submerged Concrete
1.0	0.9	0.6

Should you need support or advice, please consult our advisory service for architects and craftsmen on the hotline numbers

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