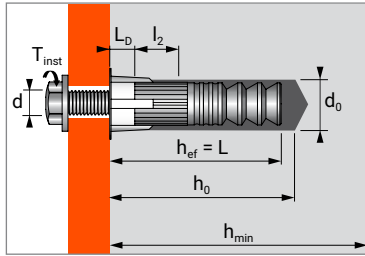




Female chemical anchoring for heavy loads for use in non-cracked concrete with VIPER XTREM or EPCON C8 XTREM resin



TECHNICAL DATA

RANGE	Min. anchor depth	Min. thick. of base material	Thread length	Depth of threaded start	Thread diameter	Drilling depth	Drilling diameter	Total anchor length	Tighten torque	Code	
	(mm) h_{ef}	(mm) h_{min}	(mm) l_2	(mm) L_D	(mm) d	(mm) h_0	(mm) d_0	(mm) L	(Nm) T_{inst}	Zinc coated steel	Stainless steel A4
M8X60	60	100	20	4,5	8	65	14	60	15	062770	062860
M10X65	65	100	25	7	10	70	20	65	30	062480	062960
M12X75	75	125	30	8	12	75	24	75	70	062760	063100
M12X120	120	180	38	5	12	125	18	120	70	062500	-
M16X125	125	180	40	9,5	16	130	28	125	120	052800	051175
M20X170	170	225	50	12,5	20	175	35	170	200	062810	-
VIPER XTREM cartridge 280 ml										060187	
VIPER XTREM cartridge 410 ml										060189 / 060188	
VIPER XTREM TR cartridge (Tropical version) 410 ml										060201	
EPCON C8 XTREM cartridge 450 ml										055887	

CHARACTERISTICS



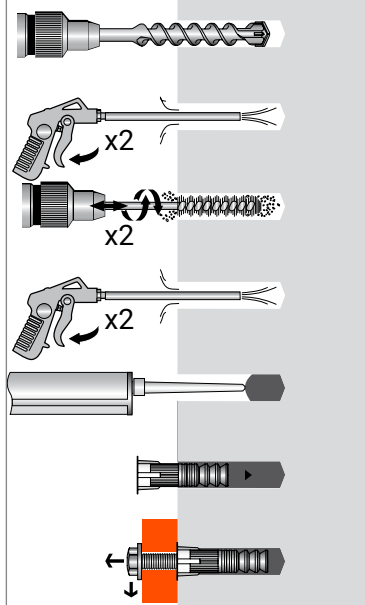
APPLICATION

- Fixing steel framed structures
- Fixing machinery (resistant to vibration)
- Electrical fixings (public lighting, cable trays, etc.)
- Waterproof fixings (dams, etc.)
- Fixings for protective barriers, safety rails

ANCHOR MECHANICAL PROPERTIES

SIZE	M8	M10	M12	M16	M20
ATP - zinc coated steel					
f_{uk} [N/mm ²] Min. tensile strength	520	520	520	520	520
f_{yk} [N/mm ²] Yield strength	420	420	420	420	420
ATP - stainless steel A4					
f_{uk} [N/mm ²] Min. tensile strength	650	650	650	-	-
f_{yk} [N/mm ²] Yield strength	350	350	350	-	-

INSTALLATION



SETTING TIME

VIPER XTREM RESIN

TEMPERATURE	MAX. TIME FOR INSTALLATION		CURING TIME	
	Standard version	Tropical version	Standard version	Tropical version
-10°C ▶ -5°C	90 min.	-	24 h	-
-4°C ▶ 0°C	50 min.	-	240 min.	-
1°C ▶ 5°C	25 min.	60 min.	120 min.	240 min.
6°C ▶ 10°C	15 min.	40 min.	90 min.	180 min.
11°C ▶ 20°C	7 min.	15 min.	60 min.	120 min.
21°C ▶ 30°C	4 min.	8 min.	45 min.	60 min.
31°C ▶ 40°C	2 min.	4 min.	30 min.	60 min.

EPCON C8 XTREM RESIN

TEMPERATURE	MAX. TIME FOR INSTALLATION	WAITING TIME FOR 45 % LOAD	CURING TIME
5°C	26 min.	15 h	26 h
10°C	20 min.	12 h	23 h
20°C	14 min.	6 h	12 h
30°C	8 min.	5 h	8 h
40°C	5 min.	3 h	6 h

* PREMIUM CLEANING:

- 2 blowing with compressed air
- 2 brushing with brushed fitted on a drilling machine
- 2 blowing with compressed air

CHEMICAL RESISTANCE OF THE SPIT RESINS

VIPER XTREM resin: refer to the technical data sheet

EPCON C8 XTREM resin: refer to the technical data sheet



ZINC COATED & STAINLESS STEEL A4

ATP

MINIMUM THICKNESS OF CONCRETE, CHARACTERISTIC & MINIMUM DISTANCES FOR SPACING, EDGE

SIZE			M8	M10	M12	M12	M16	M20
Anchorage depth	h_{ef}	[mm]	60	65	75	120	125	170
Minimum thickness of base material	h_{min}	[mm]	100	100	125	180	180	225
Characteristic edge and spacing distance for full anchor capacity	$C_{cr} \geq$	[mm]	90	97,5	112,5	180	187,5	255
	$S_{cr} \geq$	[mm]	180	195	225	360	375	510
Minimum distances for non-cracked concrete	C_{min}	[mm]	40	45	55	65	65	85
	$S \geq$	[mm]	40	45	55	65	65	85
	S_{min}	[mm]	40	45	55	65	65	85
	$C \geq$	[mm]	40	45	55	65	65	85

CHARACTERISTIC RESISTANCES [kN]

Characteristic resistances are shown as informative, and have to be used by application of safety factors.

TENSILE

NON-CRACKED CONCRETE - C20/25

SIZE	M8	M10	M12	M12	M16	M20
h_{ef} [mm]	60	65	75	120	125	170
$N_{Rk,p}$ [N/mm ²]	16,0	20,0	30,0	30,0	60,0	95,0

SHEAR

NON-CRACKED CONCRETE - C20/25 to C50/60

SIZE	M8	M10	M12	M12	M16	M20
h_{ef} [mm]	60	65	75	120	125	170
Studs Grade 5.8						
$V_{Rk,s}$ [kN]	<u>9,2</u>	<u>14,5</u>	<u>21,1</u>	<u>21,1</u>	<u>39,3</u>	<u>61,0</u>
Studs Grade 8.8						
$V_{Rk,s}$ [kN]	<u>14,5</u>	<u>23,0</u>	<u>33,5</u>	<u>33,5</u>	<u>63,0</u>	<u>98,0</u>
Studs Grade A4-70						
$V_{Rk,s}$ [kN]	<u>13,0</u>	<u>20,0</u>	<u>30,0</u>	<u>30,0</u>	<u>55,0</u>	<u>86,0</u>

RECOMMENDED LOADS OF ONE ANCHOR WITHOUT INFLUENCE OF SPACING & CONCRETE EDGE [kN]

Recommended values are given for spacing $\geq S_{cr}$ and edge distance $\geq C_{cr}$.

TENSILE

NON-CRACKED CONCRETE - C20/25 to C50/60

SIZE	M8	M10	M12	M12	M16	M20
h_{ef} [mm]	60	65	75	120	125	170
N_{Rec} [kN] C20/25	7,6	9,5	14,3	14,3	28,6	45,2
N_{Rec} [kN] C40/60	9,6	12,0	18,0	18,0	36,0	57,0

$$N_{Rec} = \min [N_{Rd,p} ; N_{Rd,c} ; N_{Rd,s}] / \gamma_F ; \gamma_F = 1,4$$

SHEAR

NON-CRACKED CONCRETE - C20/25 to C50/60

SIZE	M8	M10	M12	M12	M16	M20
h_{ef} [mm]	60	65	75	120	125	170
Studs Grade 5.8						
V_{Rec} [kN]	<u>5,2</u>	<u>8,3</u>	<u>12,1</u>	<u>12,1</u>	<u>22,4</u>	<u>34,9</u>
Studs Grade 8.8						
V_{Rec} [kN]	<u>8,3</u>	<u>13,3</u>	<u>19,3</u>	<u>19,3</u>	<u>36,0</u>	<u>56,0</u>
Studs Grade A4-70						
V_{Rec} [kN]	<u>6,0</u>	<u>9,2</u>	<u>13,7</u>	<u>13,7</u>	<u>25,2</u>	<u>39,4</u>

$$V_{Rec} = V_{Rd,s} / \gamma_F ; \gamma_F = 1,4$$

Design resistances for static loads are given for spacing $\geq S_{cr}$ and edge distance $\geq C_{cr}$.

For project with reduced spacing and edge distance, we recommend to use SPIT i-Expert software to design your project according to EN 1992-4.



i-Expert Software

DESIGN RESISTANCE FOR STATIC LOADS IN NON CRACKED CONCRETE [kN]

TENSILE

SIZE	M8	M10	M12	M12	M16	M20
h_{ef} [mm]	60	65	75	120	125	170
$N_{Rd,uncr}$ [kN] C20/25	10,7	13,3	20,0	20,0	40,0	63,3
$N_{Rd,uncr}$ [kN] C40/60	13,4	16,8	25,2	25,2	50,4	79,8

Distances S_{cr} and C_{cr} must be fulfilled

$$N_{Rd,uncr} = \min [N_{Rk,p,uncr} / \gamma_{Mc} ; N_{Rk,s} / \gamma_{Ms,N}]$$

$$\gamma_{Mc} = 1,8$$

SHEAR

SIZE	M8	M10	M12	M16	M20	M24
h_{ef} [mm]	60	65	75	120	125	170
Studs Grade 5.8						
$V_{Rd,s}$ [kN] $\geq C20/25$	<u>7,3</u>	<u>11,6</u>	<u>16,9</u>	<u>16,9</u>	<u>31,4</u>	<u>48,8</u>
Studs Grade 8.8						
$V_{Rd,s}$ [kN] $\geq C20/25$	<u>11,6</u>	<u>18,4</u>	<u>26,8</u>	<u>26,8</u>	<u>50,4</u>	<u>78,4</u>
Studs Grade A4-70						
$V_{Rd,s}$ [kN] $\geq C20/25$	<u>8,3</u>	<u>12,8</u>	<u>19,2</u>	<u>19,2</u>	<u>35,3</u>	<u>55,1</u>

$$V_{Rd,s} = V_{Rk,s} / \gamma_{MS,V}$$

Stud grade 5.8 & 8.8 : $\gamma_{MS,V} = 1,25$; Studs Grade A4-70 : $\gamma_{MS,V} = 1,56$ Nota: The values indicated in *italics and underlined* correspond to steel failure