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CONCRESIVE®1440

Epoxy-acrylate based fixing & anchoring CIC system

Description

CONCRESIVE 1440 is an advanced epoxy-acrylate fixing & anchoring system supplied in a 300 ml capsule-in-cartridge (CIC) form. CONCRESIVE 1440 combines predictable high performance with safety & application convenience.

Uses

CONCRESIVE 1440 is recommended for heavy duty and critical anchorages, such as:

- Fixing externally threaded rods
- Anchor sockets
- Bonding concrete reinforcing bars
- Securing profile sections and bars

Typical properties

Aspect	:	Grey thixotropic paste
Relative density	:	1.60

Setting times

Resin cartridge temperature	Open time	Base material temperature	Curing Time
Minimum temperature +5°C	cartridge	-5 to 0°C	24 hours
		0 to 5°C	180 mins
5 to 10°C	8 mins	5 to 10°C	100 mins
10 to 20°C	4 mins	10 to 20°C	70 mins
20 to 35°C	1 mins	20 to 35°C	40 mins

Advantages

- Solvent free – safe in use and storage
- Moisture tolerant
- CIC - applied using standard applicator sealant gun making it easy and economical to use

Standards

- Complies to ETAG 001 part 5 option 7

Specification Clause

The high performance epoxy-acrylate fixing and anchoring compound shall be CONCRESIVE 1440, a two component, styrene & cement free. The product shall be supplied in Cylinder-in-cartridge form and should allow for extrusion using standard sealant applicator gun. The fixing compound shall be supplied in self mixing cartridge system and shall avoid any site mixing.

Directions for use

1. Drill the hole to the correct diameter and depth using a rotary percussive drill machine.
2. Use the cleaning brush and blow pump to clean the hole and remove all the laitance.
3. Once the hole is prepared remove the screw cap from the cartridge.
4. Cut the film to remove the metal clip and ensure that that both the components can extrude together.
5. Attach the mixer nozzle and place the cartridge in the applicator gun.
6. Dispense the first part to waste; unit an even colour is achieved.
7. Remove any free water from the hole.
8. Insert the nozzle to the far end of the hole (using extension tubing if necessary) and inject the resin, withdrawing the nozzle/tube as the hole fills.
9. Immediately insert the fixing, slowly and with a slight twisting motion. Remove excess resin from around the mouth of the hole before it sets.
10. Leave the fixing undisturbed until the cure time has elapsed.
11. Attach the fixture and tighten the nut.

Please refer the 2nd page for installation and loading capacity data and reduction factors.

Storage and Shelf life

Store under cover, out of direct sunlight and protect from extremes of temperature. In tropical climates the product must be stored in an air-conditioned environment. Shelf life is **12 months** when stored as above. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice please consult BASF's Technical Services Department.

Safety precautions

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs (which can also be tainted with vapour until product fully cured or dried). Treat splashes to eyes and skin immediately. If accidentally ingested, seek immediate medical attention. Keep away from children and animals. Reseal containers after use. Do not reuse containers for storage of consumable item. For further information refer to the material safety data sheet. MSDS available on demand or on BASF construction chemicals web site.

Note

All BASF Technical Data Sheets are updated on regular basis; it is the user's responsibility, to obtain the most recent issue.

Field services where provided, does not constitute supervisory responsibility, for additional information contact your local BASF representative.

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Installation and load capacity data for threaded anchors

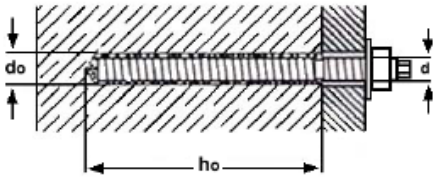
Anchor dia	Hole dia	Hole depth	Brush size	Characteristic distances		min concrete thickness	Resin vol	Max installation torque	Resistance to tensile loads in C20/25 concrete (kN) to ETAG 001	
d (mm)	d_o (mm)	$h_o=h_{ef}$ (mm)		Edge $C_{cr,N}$	spacing $S_{cr,N}$	h_{min} (mm)	(ml)	(Nm)	Charateristic load N_{Rk}	Design resistance N_{Rd}
8	10	64	S14	64	128	100	2.8	10	16	7.4
"	"	80	"	80	160	110	3.4	"	20.5	9.5
"	"	96	"	96	192	125	4.1	"	25	11.6
10	12	80	S14	80	160	110	4.5	20	25	11.6
"	"	90	"	90	180	120	5.0	"	29.0	13.4
"	"	120	"	120	240	150	6.7	"	40	18.5
12	14	96	M20	96	192	125	6.9	40	40	18.5
"	"	110	"	110	220	140	7.8	"	46.0	21.3
"	"	144	"	144	288	175	10.3	"	60	27.8
16	18	128	M20	128	256	160	12.2	80	60	27.8
"	"	192	"	192	384	225	18.8	"	95	44.0
20	22	160	L29	160	320	200	21.7	150	75	34.7
"	"	170	"	170	340	220	23.0	"	80.0	37.0
"	"	240	"	240	480	280	32.5	"	115	53.2
24	26	192	L29	192	384	240	34.2	200	115	53.2
"	"	210	"	210	420	270	37.4	"	125	57.9
"	"	288	"	288	576	335	51.3	"	170	78.7

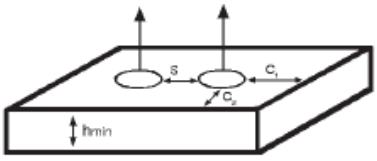
The quoted values for N_{Rk} are for C20/25 concrete; factors apply for higher strength concretes

C30/37	C40/50	C50/60
1.04	1.07	1.09

Close edge (C) and anchor spacing (S) distances: The characteristic edge distance ($C_{cr,N}$) is 1.0 x h_{ef}
The characteristic spacing distance ($S_{cr,N}$) is 2.0 x h_{ef}
The minimum edge (C_{min}) and spacing (S_{min}) distances are 0.5 x h_{ef}

All load capacity values assume adequate steel strength; the anchor tests were carried out using 10.9 or 12.9 steel.





d	anchor nominal diameter (mm)
d_o	drilled hole diameter (mm)
h_o	hole depth (= h_{ef}) (mm)
h_{ef}	effective bond length (mm)
C	close edge distance (mm)
S	anchor spacing (mm)
$C_{cr,N}$	minimum close edge distance to achieve N_{Rk}
$S_{cr,N}$	minimum anchor spacing to achieve N_{Rk}
N_{Rk}	characteristic tensile load (kN)
N_{Rd}	design resistance (kN)

Concrete capacity reduction factors, tension (ψ_N)

Single anchor, close edge C	$\psi_{c,N} = 0.5\ (C/h_{ef}) + 0.5 \leq 1$
Two anchors, close spacing S	$\psi_{s,N} = 0.25\ (S/h_{ef}) + 0.5 \leq 1$
Two anchors, c/l perpendicular to close edge C_1	$\psi_{sc,N} = 0.25\ (S/h_{ef}) + 0.25\ (C_1/h_{ef}) + 0.25 \leq 1$
Two anchors, c/l parallel to close edge C_2	$\psi_{cs,N} = 0.25\ (C_2/h_{ef}) + 0.125\ (S/h_{ef}) + 0.125(C_2/h_{ef})(S/h_{ef}) + 0.25 \leq 1$

Concrete capacity reduction for more complex anchor configurations in tension, and for shear forces acting towards a close edge, should be determined using the design method A, given in ETAG 001, Annex C.

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