SCHOMBURG

Technical Data Sheet

INDUCRET®-VK4060

Epoxy acrylate anchoring grout

Art.-No. 5 50047

Description:
INDUCRET-VK4060 is a ready to use styrene modified epoxy acrylate anchoring resin. It is available in an easy to use coaxial cartridge system.

Primary Uses:
INDUCRET-VK4060 is used on concrete, solid masonry, solid rock and hard natural stone for fixing:
- externally threaded rods
- anchor sockets
- concrete reinforcing bars
- securing profiled sections and bars.

Advantages:
- Versatile applications
- Economic
- Expansion pressure not needed for anchoring
- Medium to high load capacity
- Fixing close to free edges
- Easy to use
- Rapid curing

Packaging:
INDUCRET-VK4060 is available in the following packaging:
- 410ml Self contained cartridge system. A and B components are filled into the cartridge at the pre-determined mixing ratio of 1:10.

Recommended Accessories:
- INDU-Wire Brush: used for cleaning the holes prior to injection of INDUCRET4060
- INDU-Air Pump: used for cleaning the holes prior to injection of INDUCRET4060
- INDU-Applicator Gun: used for dispensing INDUCRET4060 from the cartridge

Application Procedures:
1. Using a rotary percussive drill, drill holes with the specified diameter and depth. After drilling, clean hole with appropriate sized INDU-Wire Brush and INDU-Air Pump.
2. Remove screw cap from cartridge and attach mixer nozzle. Place in INDU-Applicator Gun and begin to dispense material to waste until an even colour is achieved.
3. Insert mixer nozzle to the back of the hole and fill hole half-way (depends on application). Withdraw nozzle as you fill the hole, for deep holes use extension tubing.
4. Insert fixing immediately, slowly with a slight twisting motion. Remove excess resin from hole opening before it sets.
5. Fixing should be left undisturbed until the loading time has elapsed.

Typical Properties:
Gel and Loading Times:

Application temperature	Gel time	Minimum time
30° C	3 - 5 mins	20 mins
25° C	4 - 7 mins	30 mins
20° C	5 - 10 min	40 mins
10° C	10 - 20 mins	80 mins
5° C	15 - 30 min	120 mins

Recommended hole diameteres (d_o):

Bar dia. d	6	8	10	12	16	20	25	32
Hole dia. d_o	8	10	12	14	20	25	32	38

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Typical load capacity data for all thread studs:

Stud diameter d (mm)	Hole diameter d_o (mm)	Hole depth h_o (mm)	Required close edge distance to achieve N_{rec} C_{cr} (mm)	Required anchor spacing to achieve N_{rec} S_{cr} (mm)	Min concrete member thickness h_{min} (mm)	Characteristic load in min 30N/mm² concrete N_{RK} (kN)	Recommended load in min 30N/mm² concrete N_{rec} (kN)
8	10	80	120	80	110	20.8	6.9
10	12	90	135	90	120	37.7	12.6
12	14	110	165	110	140	46.1	15.4
16	18	125	190	125	165	59.2	19.7
20	24	170	255	170	220	94.1	31.4
24	26	210	315	210	270	102.8	34.3

d: stud or bar nominal diameter (mm)
d_o: drilled hole diameter (mm)
h_o: hole depth (allthread) (mm)
h_{ef}: effective bond length (rebar) (mm)
C: close edge distance (mm)
S: anchor spacing (mm)
C_{cr}: required close edge distance to achieve N_{Rk}
S_{cr}: required anchor spacing to achieve N_{Rk}
h_{min}: minimum concrete member thickness (mm)
f_{cm}: concrete compressive strength (N/mm²)
N_{Rk}: anchor characteristic load, tension (kN)
V_{Rk}: anchor characteristic load, shear (kN)
N_{rec}: anchor recommended load (kN)
Rf_{cN}: close edge reduction factor, tension only
Rf_{cV}: close edge reduction factor, shear only
Rf_s: close spacing reduction factor, tension and shear

Load capacity calculations:

The following equations will assist the design engineer to obtain values related to the anchoring of reinforcement bars.

Equations for tensile and shear load capacities:
Tension: $N_{Rk} = (h_{ef} - 50) / 2.5$
Shear: $V_{Rk} = (0.5 (h_{ef} . d_o . f_{cm}) / 1000$ $(f_{cm} \leq 50)$

Concrete capacity reduction factors:
Close edge, tension:
$Rf_{cN} = 0.4 + [0.4 C / h_{ef}]$
$0.5 \leq [C / h_{ef}] \leq 1.5$

Close edge, shear:
$Rf_{cV} = 0.25 + [0.5 C / h_{ef}]$
$0.5 \leq [C / h_{ef}] \leq 1.5$

Close spacing, tension:
$Rf_s = 0.4 + [0.6 S / h_{ef}]$
$0.25 \leq [S / h_{ef}] \leq 1$

Notes:

Quoted values for N_{RK} are corrected to f_{cm}=30, according to the ETAG 'Metal Anchors for use in Concrete'. The equations for calculating the values of the (unfactored) characteristic loads N_{RK} and V_{RK} for reinforcing bar assume $f_{cm} \leq 30$. All load capacity

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equations and values assume adequate steel strength; all thread stud tests were carried out on grade 8.8 steel. Hole diameters for reinforcing bar assume UK C.A.R.E.S. approved bar, grade 460; the use of bar with a high rib pattern could call for larger diameter holes, and tests may be required to determine the characteristic loads.

Storage & Shelf Life:
12 months when stored in original packaging in cool climate (0° - +20° C) out of direct sunlight. Shelf life may be reduced if stored at higher temperatures.

Health & Safety:
INDUCRET-VK4060 Cartridge System contains styrene which is classified as a hazardous material and is flammable (flash point of +32° C). Wear suitable protective clothing eye/face protection and gloves. Ensure adequate ventilation during application and initial curing. For further health and safety information, please refer to the valid Material Safety Data Sheet.