

# X-Tite ResiLoc EX

## High viscosity epoxy resin anchor

### Product Description

X-Tite ResiLoc EX is a pure epoxy resin grout use for general purpose horizontal and vertical anchoring in rock, concrete, brick or solid masonry.

### Advantages

- Slow set
- Long working time
- High tensile strength
- Resistant to a wide range of chemicals
- Vibration resistant
- Styrene free
- Dimensionally stable
- Easy to use

### Uses

- Starter bars
- Anchor bolts
- Threaded studs

### Laboratory Test Data

Property	Results
Compressive strength (BS 6319)	60MPa at 7 days
Tensile strength (BS 6319)	16MPa at 7 days

### Load Testing

On-site load tests should always be performed to determine the actual performance prior to use, as it is dependent on many variables.

### Gel and Loading Times

Temp. °C	Gel Time (mins)	Loading Time (hours)
5	150	24
20	30	8
30	15	4

### Packaging

1 & 5Kg pack.

### Shelf Life

18 months when stored at 5 to 30C or less in a frost-free, dry and shaded area.

### Installation Guidelines

NCC X-Calibur provides detailed method statements for all its products for use in various applications. These must be referred to prior to starting work. The information below is a summary intended for guidance only.

### Hole Preparation

Anchor bolt holes should be drilled using air or rotary percussive drilling equipment. If diamond core or non-percussive drills are used then the sides of the hole must be thoroughly roughened.

### Cleaning the hole

Drilling debris and dust must be thoroughly cleaned from the hole using a stiff nylon bottle brush and clean compressed air and/or clean water. If water is used, the hole may be left damp or even full of water, but the water and the sides of the hole must be clean.

### Mixing

Thoroughly mix the base prior to adding the hardener using a slow speed drill (500rpm) fitted with an approved NCC X-Calibur mixing paddle. After mixing the base, add all of the hardener to the base and mix for 1 minute until both components have fully dispersed and are uniform in color. Be sure to rotate the mixer throughout the drum. Mix only full packs.

### Application

Place the mixing material into a barrel gun with a suitable nozzle to the size of hole to be filled and insert the nozzle in to the base of the hole and fill the hole while bring the nozzle of out of the hole then insert the bar using a slightly twisting motion.

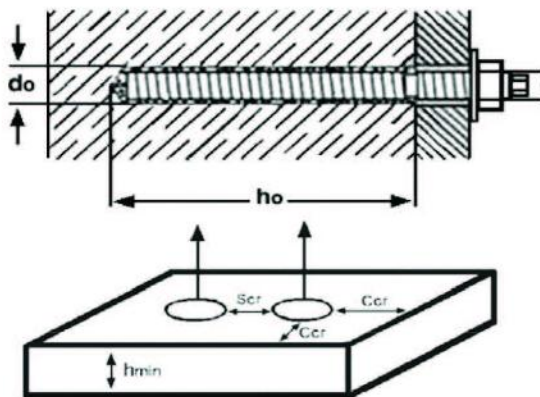
### Clean Up

Drilling debris and dust must be thoroughly cleaned from the hole using a stiff nylon bottle brush and clean compressed air or blow pump.



## Load Capacity Data for all Thread Studs

Stud diameter	d (mm)	8	10	12	16	20
Hole diameter	d <sub>o</sub> (mm)	10	12	14	18	24
Hole depth	h <sub>o</sub> (mm)	80	90	110	125	170
Required close edge distance (tension) to achieve N <sub>rec</sub>	C <sub>cr</sub> (mm)	120	135	165	190	255
Required anchor spacing (tension) to achieve N <sub>rec</sub>	S <sub>cr</sub> (mm)	160	180	220	250	340
Min. concrete member thickness	h <sub>min</sub> (mm)	110	120	140	165	220
Characteristic tensile load in min. 30N/mm <sup>2</sup> concrete	N <sub>RK</sub> (kN)	29.3	40.3	59.6	90.8	111.1
Recommended tensile load in min. 30N/mm <sup>2</sup> concrete	N <sub>rec</sub> (kN)	9.8	13.4	19.9	30.3	37.0



- d stud or bar nominal diameter (mm)
- d<sub>o</sub> drilled hole diameter (mm)
- h<sub>o</sub> hole depth (all thread) (mm)
- h<sub>ef</sub> effective bond length (rebar) (mm)
- C close edge distance (mm)
- S anchor spacing (mm)
- C<sub>cr</sub> required close edge distance to achieve N<sub>RK</sub>
- S<sub>cr</sub> required anchor spacing to achieve N<sub>RK</sub>
- h<sub>min</sub> minimum concrete member thickness (mm)
- f<sub>cm</sub> concrete compressive strength (N/mm<sup>2</sup>)

### Load Capacity for Reinforcing Bar Anchors Equations for tensile and shear load capacities

Tension:  $N_{RK} = (h_{ef} - 50) / 2.0$  Shear:  $V_{RK} = (h_{ef} \cdot d_o \cdot f_{cm}) / 1000$  ( $f_{cm} \leq 50$ )

#### Recommended hole diameters (d<sub>o</sub>)

Bar dia. d	6	8	10	12	16	20	25	32
Min hole dia. d <sub>o</sub>	8	10	12	14	20	25	32	38
Max hole dia. d <sub>o</sub>	10	14	16	20	25	30	38	42

### Concrete Capacity Reduction Factors

#### Close edge, tension

$$Rf_{cN} = 0.4(C/h_{ef}) + 0.4 \leq 1 \quad (\text{Valid for } 0.5 \leq [C/h_{ef}] \leq 1.5)$$

#### Close spacing, tension

$$Rf_{sN} = 0.25(S/h_{ef}) + 0.5 \leq 1 \quad (\text{Valid for } 0.25 \leq [S/h_{ef}] \leq 2.0)$$

#### Close edge, shear

$$Rf_{cV} = 0.6(C/h_{ef}) - 0.2 \leq 1 \quad (\text{Valid for } 0.5 \leq [C/h_{ef}] \leq 2.0)$$

#### Close spacing, shear

$$Rf_{sV} = 0.1(S/h_{ef}) + 0.4 \leq 1 \quad (\text{Valid for } 1.0 \leq [S/h_{ef}] \leq 6.0)$$

Close spacing in shear must be considered if  $S < 3C$  and when  $C < 2h_{ef}$

- N<sub>RK</sub> anchor characteristic load, tension (kN)
- V<sub>RK</sub> anchor characteristic load, shear (kN)
- N<sub>rec</sub> anchor recommended load (kN)
- Rf<sub>cN</sub> close edge reduction factor, tension only
- Rf<sub>cV</sub> close edge reduction factor, shear only
- Rf<sub>sN</sub> close spacing reduction factor, tension only
- Rf<sub>sV</sub> close spacing reduction factor, shear only

### Notes on Load Capacity Data

Quoted values for N<sub>RK</sub> are corrected to f<sub>cm</sub> = 30, according to the ETAG 'Metal Anchors for use in Concrete'. The equations for calculating the values of the (unfactored) characteristic loads N<sub>RK</sub> and V<sub>RK</sub> for reinforcing bar assume f<sub>cm</sub> ≤ 30. All load capacity 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 bars with a high rib pattern could call for larger diameter holes, and tests may be required to determine the characteristic loads.

### Health and Safety

**This product is for industrial use only by trained operatives. It is potentially hazardous if not used correctly. Please refer to the Material Safety Data Sheet (MSDS) prior to the purchase and use of this product. The MSDS can be obtained via our website [www.ncc.com.eg](http://www.ncc.com.eg).**

### Authorized Technical Specialist

Please note that only NCC X-Calibur Authorized Technical Specialists ('ATs') are permitted to change any of the information in this data sheet or to provide written recommendations concerning the use of this product. Visit [www.ncc.com.eg](http://www.ncc.com.eg) for a full list of X-Calibur ATs.

### Datasheet Validity

NCC X-Calibur makes modifications to its product datasheets on a continuous basis. Please check the datasheet update section on [www.ncc.com.eg](http://www.ncc.com.eg) to ensure you have the latest version.

### Warranties

NCC X-Calibur supplies products that comply with the properties shown on the current datasheets. In the unlikely event that products supplied are proved not to comply with these properties, then we will replace the non-compliant product or refund the purchase price. NCC X-Calibur does not warrant or guarantee the installation of the products as it does not have control over the installation or end use of the products. Any suspected defects must be reported to NCC X-Calibur in writing within five working days of being detected. NCC X-Calibur Construction Chemistry Inc. **makes no warranty as to merchantability or fitness for a particular purpose and this warranty is in lieu of all other warranties express or implied.** NCC X-Calibur Construction Chemistry Inc. shall not be liable for damages of any sort including remote or consequential damages, down time, or delay.



#### Quality Statement

All Products manufactured by NCC X-CALIBUR or imported from X-CALIBUR companies world-wide are manufactured to procedures certified to conform the quality, environment, systems described in the ISO 14001:2004, ISO 9001:2000.



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