NCC X-CALIBUR CONSTRUCTION CHEMISTRY

Technical Data Sheet

X-Tite ResiLoc EX22

High performance cartridge epoxy resin anchor

Product Description

X-Tite ResiLoc EX22 is a pure epoxy resin grout use for general purpose horizontal and vertical anchoring in rock, concrete, brick or solid masonry.

Advantages

- Meets SCAQMD Rule 1168 & LEED VOC Limits
- High load capacity
- Fixing close to free edge
- Vibration resistant
- Styrene free
- Dimensionally stable
- Easy to use

Uses

- Starter bars
- Anchor bolts
- Anchor sockets
- Threaded studs

Laboratory Test Data

Property	Results
7 day compressive yield strength (MPa) (ASTM D695)	65.5
7 day compressive modulus (MPa) (ASTM D695)	1310
7 day tensile strength (MPa) (ASTM D638)	46
7 day elongation % (ASTM D638)	1.9
7 day heat deflection temperature (°C) (ASTM D648)	57
24 hrs water absorption % (ASTM D570)	0.40
Linear coefficient of shrinkage (ASTM D2566)	0.003

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
40	8	2

Volatile Organic Content

VOC = <50g/L

Specification Compliance

SCAQMD Rule 1168
LEED NC2009 IEQ 4.1
ASTM C881, Type I, II, IV & V, Grade 3, Class B & C
Florida DOT Spec 937HV and 937HSHV
BS 1504 - Part 6

Packaging

400ml cartridges.

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.

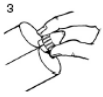
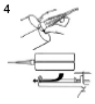
Hole Preparation

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.

Method of Use

1.  Drill the hole to the correct diameter and depth using a rotary percussive machine.
2.  Clean the hole using a stiff wire or nylon brush and clean compressed air or blow pump.
3.  Once the hole is prepared, remove the screw cap and red plug from the cartridge.
4.  Attach mixer nozzle, place in applicator gun and dispense the first part of the cartridge to waste until an even color is achieved.
5.  Insert the mixer nozzle to the far end of the hole and half fill hole (depending upon application). Withdrawing the nozzle as the hole fills. For deep holes, extension tubing can be used.
6.  Immediately insert the fixing. This should be done slowly with a slight twisting motion. Excess resin should be removed from the mouth of the hole before it sets.
7.  Leave the fixing undisturbed until loading time has elapsed.
8.  Attach the fixture and tighten the nut.

Load Capacity Data (Please refer to ResiLoc EX22 Design Information Sheet).

Threaded Rod

This data is applicable to all grades of carbon and stainless steel threaded bar up to 1040 MPa ultimate tensile stress. Ensure that threaded bar used can accommodate the loads shown below.

Rod Diameter mm	Hole Diameter mm	Hole depth mm	Ultimate Loads		Allowable Loads	
			Tension Load kN	Shear Load kN	Tension Load kN	Shear Load kN
10	11	90	42	31	10.5	7.7
12	14	108	100	57	25	14
16	20	145	134	102	33	25
20	22	180	175	144	43	36
22	25	200	241	162	60	40
25	28	225	280	233	70	53
30	35	270	396	309	99	77

Rebar (Grade 60 USA)

Bar Size	Minimum Hole Diameter (ins.)	Hole Depth (ins.)	Ultimate Loads		Allowable Loads	
			Tension Load (lbs)	Shear Load (lbs)	Tension Load (lbs)	Shear Load (lbs)
#4	5/8	4 1/2	23200	11200	5800	2800
#5	3/4	5 5/8	32300	21000	8075	5250
#6	7/8	6 3/4	44400	32200	11100	8050
#7	1	7 7/8	49600	35400	12400	8850
#8	1 1/4	9	54800	38500	13700	9625
#9	1 3/8	10 1/8	59100	41600	14700	10400
#10	1 1/2	11 1/4	62600	44000	15600	11000

Rebar (Grade 500 Metric)

Bar Size (mm)	Minimum Hole Diameter (mm)	Hole Depth (mm)	Characteristic Loads		Allowable Loads	
			Tension Load (kN)	Shear Load (kN)	Tension Load (kN)	Shear Load (kN)
10	12	90	28.6	21.6	143	14.4
12	16	110	58.0	31.1	29.0	20.7
16	20	145	98.9	55.3	49.4	36.9
20	25	180	134.5	86.4	67.2	57.6
25	32	225	145.7	135.0	72.8	90.0
32	38	290	175.3	221.2	87.6	147.5

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.

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

Authorized Technical Specialist

Please note that only NCC X-Calibur Authorized Technical Specialists ('ATSs') are permitted to change any of the information in this datasheet or to provide written recommendations concerning the use of this product.

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 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 Chemicals **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 Chemicals shall not be liable for damages of any sort including remote or consequential damages, down time, or delay.