



## PRODUCT DESCRIPTION

ZURA FIX R is a multi-purpose polyester resin grout are all anchoring applications with high pullout strength characteristic. Its two part system with base polyester resin and powder hardener. After hardening the grout produces anchorages of consistent reproducible values.

ZURA FIX R can be used for Large, Small and Pumpable Grade applications.

ZURA FIX R is used where the difference between the hole diameter and bar diameter is < 25mm. It can also be used in overhead or horizontal holes where bar/hole relationship conforms to ZURA FIX R polyester resin grout. The thixotropic nature of ZURA FIX R polyester resin grout reduces flow of grout out of the hole.

## USES

ZURA FIX R is used for high strength corrosion resistant anchoring of bolts and bars from 8 - 51mm diameter into concrete, rock, masonry or brick work where high speed of installation and early application of load is required. Permanent installation of reinforcement starter bars, foundation bolts, base plates, balustrading, barriers and safety fences, railway tracks, tie-back anchors, reinforcement dowelling abutments, ground anchors for towers, cranes, dock sills.

## ADVANTAGES

- ▶ Rapid strength
- ▶ Vibration resistant
- ▶ Corrosion resistant
- ▶ Non-expansive
- ▶ Can be placed under water

## STANDARD

Materials tested in accordance with  
BS 4551 / BS 5080 / BS 2782

## TECHNICAL DATA

Specific Gravity : 1.9g/cc

## DESIGN CRITERIA

The version of ZURA FIX R grout to be used will depend upon ambient temperature and anchor conditions.

The high strength of the cured resin permits strong anchors to be created. The ultimate bond strength developed depends upon:

- ▶ Strength of host material
- ▶ Length of resin bond to bar
- ▶ Hole preparation and formation
- ▶ Type and dimension of bar

## PROPERTIES

Gel time Temp(°C)	Gel time (min)	Minimum time required before loading (hours)
20	80	7
30	40	3
40	15	1

**Compressive strength:** After the minimum time required before loading the grout typically attains a compressive strength in excess of 20N/mm<sup>2</sup> and an ultimate compressive strength of 70N/mm<sup>2</sup> in 7 days (50mm x 50mm x 50mm) when tested as per BS 6319 Part 2 : 1983.

**Chemical resistance:** The cured resin is resistant to fresh and salt water, petrol, oils, grease and most acids, alkalis and solvents.

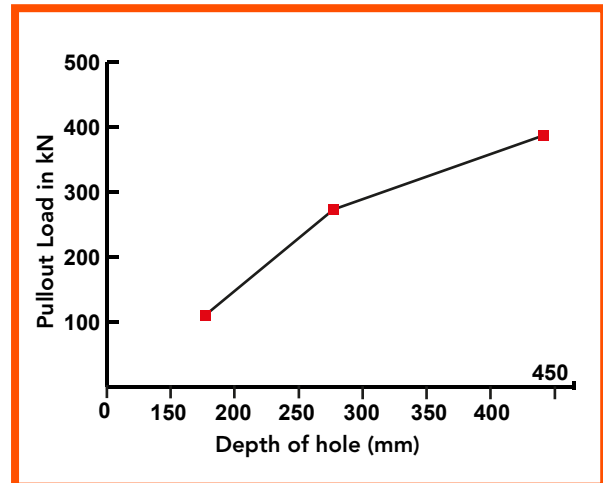
**Application instructions:** ZURA FIX R will be chosen depending on anchor conditions (see description)

### Parameters of anchor design

The high strength of the cured resin permits strong anchors to be created. Ultimate strength is determined by:

- ▶ Strength of host material
- ▶ Length of resin bond to bar
- ▶ Hole preparation and formation
- ▶ Type and dimension of bar

Table 1: Typical Pullout Load Results of



Concrete test specimen: RCC blocks

Compressive strength: 70 MPa

Bonded Area calculated based on hole diameter

Anchor rods: MS bars

Minimum safety factors of 1.5 in non critical and of 2 in critical cases should be considered for design purposes. Wherever relevant, the local code of practice or standard must also be considered in relation to anchorage length.

# ZURA FIX R

Multi-Purpose Polyester Resin Grout

**Table 1:** Typical Pullout Load Results of

Dia of Rod (mm)	Dia of Hole (mm)	Bonded Length (mm)	Bonded Area (mm <sup>2</sup> )	Load (kN)	Bond Strength (MPa)
16	20	175	10996	102	9.25
25	30	275	25918	274	8.95
32	38	450	53721	395	7.37

**Note:** In the pullout load results the mode of failure showed cracks in concrete

### Hole preparation and formation

Optimum performance of ZURA FIX R requires rough sided, dust free holes. Uses of rotary percussive drills with air or water flushing is recommended.

Diamond drilled holes should be under-reamed unless necessary safety factors are incorporated.

Cast holes should preferably be inverse dovetail configuration. If parallel sides holes are cast they should be rough to provide adequate keying.

### Bar preparation

All bars should preferably be degreased and all flaky rust removed.

## MIXING

A complete pack of resin and catalysed filler should be mixed in one operation. Mixing may be carried out mechanically. When a smooth, even consistency is achieved the grout is ready for use and should be placed well within the gel time of the grout (See properties).

Packs have been designed to produce practical and economic volumes of grout. Do not attempt to mix partial pack components.

### Installation

#### ZURA FIX R Polyester Resin Grout

Using the calculated volume of grout based on Table 1, the grout should be poured steadily into the prepared holes. The anchor bar is then pressed into the hole to the required depth. Slight agitation of the bar will assist in achieving a complete bond. The bar should then be left undisturbed in the required position until the resin is set.

#### ZURA FIX R polyester resin grout

The grout should be injected to the rear of the hole to avoid air entrapment. The thixotropic nature of ZURA FIX R will prevent significant flow of resin out of the hole.

### Cleaning

Any mixing drums, pumps, etc. Should be cleaned within the pot life of the grout.

**Table 2**

Quantity estimating guide Table indicates volume of ZURA FIX R polyester resin grout in cm<sup>3</sup>/100mm bond (Apprx.)

Hole dia mm	Bolt dia mm				
	16	20	25	32	40
12					
20	25				
25	50	40	25		
32	80	70	60	40	
38		100	100	75	45
45		150	130	100	45
50			180	150	90
62				280	225

These figures allow for a 25% wastage factor.

If the anchor is in very old concrete, masonry or brickwork the wastage factor should be increased.

No of bolts/200 mm deep hole which can be fixed using a 5kgs pack of ZURA FIX R (Apprx.)

Hole dia mm	Bolt size mm					
	12	16	20	25	32	40
12						
20	50					
25	25	31	50			
32	15	17	21	31		
38		12	12	16	27	
45			8	9	12	27
50			6	8	9	13
62			4	4	5	5

These figures allow for a 25% wastage factor.

# ZURA FIX R

Multi-Purpose Polyester Resin Grout

## SHELF LIFE

The product should be stored away from high temperature. 6months shelf life when stored below 250C in original unopened containers.

## PACKAGING

ZURA FIX R : 1kg and 5kg Packs

## HEALTH & SAFETY

Confined areas must be well ventilated and no naked flames allowed. Contact with the skin should be avoided as certain sensitive skins may be affected by contact with the polyester resin. In such cases if contact with the resin occurs, the skin should be washed immediately with soap and water - not solvent. Gloves and barrier creams should be used when handling these products.

Eye contamination must be immediately washed with plenty of water and medical treatment sought.

**FIRE:** ZURA FIX R polyester resin grout resin is flammable. Confined areas must be well ventilated and no naked flames allowed.

Do not smoke during use.

**Flash Point : ZURA FIX R - 29°C**

## PRECAUTIONS & LIMITATIONS

Fire resistance and creep

At operating temperatures above 400C, the creep of ZURA FIX R polyester resin grout resin under load may become significant. Resin anchors should not be used where structural load bearing performance has to be maintained in anchors subjected to fire conditions.

**Important:** It is the Customer's responsibility to satisfy themselves by checking with the Company whether the information is still current at the time of use. The customer must be satisfied that the product is suitable for the use intended. All products comply with the properties shown on current Technical Literatures. However, **Prozura Construction Chemicals Pvt. Ltd.** does not warranty or guarantee the installation of the products as it does not have any control over installation or end use of the product. All information and particularly the recommendation relating to application and end use are given in good faith.

PROZURA/25/02/2019



### ProZura Construction Chemicals Pvt. Ltd.

📍 First Floor, Hague Building, 9 Sprott Road, Ballard Estate, Fort, Mumbai-400 001, (MH)  
☎ +91 91520 94840 ✉ info@prozura.com 🌐 www.prozura.com