

## **BOLT & STUD FIX STF**

### **DESCRIPTION**

Bolt & Stud Fix STF is a rapid curing "one shot" two part chemical anchoring system based on an unsaturated polyester resin in methacrylate monomers. It has an extremely mild odour, high flash point and no flammability assigned to it, offering the advantage of being able to be used in confined areas. The low odour also enables the product to be used in environments where strong odours could pose problems. This revolutionary twin bag system has been developed to be used with all sealant/skeleton guns. Applied in one single action to produce a cost effective, tough, chemical resistant fixing. Bolt & Stud Fix STF is ideal for close-to-edge applications (unlike expansion anchors) as no stress is placed on the surrounding substrate. Versatile in use Bolt & Stud Fix STF is suitable for fixing wall ties, starter bars, studs, bolts or large screws in a wide range of substrates including brickwork, concrete, masonry, stone and PFA blocks. Hollow base materials can be securely fastened into, by using in conjunction with a sleeve or sieve.

### **PREPARATION**

- 1 Drill hole to the correct diameter and depth (see chart for guide), ideally using a rotary percussion machine. For optimum results the hole must be coarse sided. If the holes are produced by diamond drilling the surfaces should be thoroughly roughened.
2. Remove all dust and debris from the hole using a hand air pump or a stiff rotary brush.
3. All bars should be clean and free from oil or grease and all flaking rust should be removed. Threaded rod or studs should be chisel-ended to prevent them being unscrewed from the cured resin.

### **APPLICATION**

- 1 Unscrew the lid and cut off the top of the bag under the metal clamp.
- 2 Attach the mixing nozzle to the cartridge (*screw down hand tight*).
- 3 Place cartridge into the dispensing gun.
- 4 Gradually pressurise the Cartridge by activating the hand trigger a few times until material passes through the mixing nozzle and an even colour is obtained (approximately 5-6 inches of extruded material should be adequate).
- 5 Once the desired fill is achieved release the pressure by pressing the slide release arm and pulling back the slide rail, wipe off excess material and insert the fixing slowly, with a rotating action, to the desired depth.

## **TECHNICAL DATA**

MIXING RATIO - 10:1 by volume as supplied in cartridge.

TEMPERATURE (°C)      (°F)		GEL TIME (MINUTES)	MINIMUM LOADING TIME (MINUTES)
5	41	12	50
10	50	9	45
15	59	6	35
20	68	5	30
25	77	3	30

## **ULTIMATE PHYSICAL PROPERTIES**

COMPRESSIVE STRENGTH	(ASTM 695)	-	58 N/mm <sup>2</sup>
TENSILE STRENGTH	(ASTM 638)	-	< 10 N/mm <sup>2</sup>
FLEXURAL STRENGTH	(ASTM 790)	-	19 N/mm <sup>2</sup>
ELASTIC MODULUS		-	6700 N/mm <sup>2</sup>
FLEXURAL MODULUS		-	4205 N/mm <sup>2</sup>
MIXED DENSITY		-	1.65 g/cm <sup>3</sup>

ANCHOR SIZE (mm)	HOLE DIAMETER (mm)	HOLE DEPTH (mm)	TENSION (kN) (Ultimate pull out)	FIXINGS PER UNIT (Holes filled 2/3 full)	
				280ml	300ml
8	10	80	21.5	63	68
10	12	90	28.0	39	42
12	14	110	30.0	24	25
16	18	125	69.0	12	13
20	22	170	75.0	6	5
24	26	210	101.0	3	4
30	32	280	171.0	2	2

Tension Figures quoted are tested in accordance with B.S. 5080 PART 1 in approximately 30 N/mm<sup>2</sup> concrete.

The ultimate pull out strength is varied by:

- 1 The strength of both the substrate and bar/stud
1. The length of the resin bond to bar
2. Hole preparation
3. Anchor separation

Safety factors should be considered depending on the strength and nature of the substrate.

Due to the inconsistent nature of hollow blocks and bricks tension figures may vary. Site testing should be carried out where necessary to establish particular suitability. In order to achieve maximum performance the distance between the centres of the anchors should be a minimum of 2.0 x the embedment depth, and 1.25 x the embedment depth for the minimum distance from edges.

## **STORAGE**

Store in a dry area between 5°C and 25°C. Do not expose to direct sunlight. Storage at higher temperatures will reduce the shelf life.

## **HEALTH AND SAFETY DATA**

Bolt & Stud Fix STF contains methacrylates which may cause skin sensitisation. Avoid contact with skin and eyes and wear suitable protective clothing such as gloves, goggles and overalls.

On contact with skin wash off immediately with plenty of soap and water. For further information refer to the Material Safety Data Sheet.

## **IMPORTANT**

The information and data given is based on our own experience, research and testing and is believed to be reliable and accurate. However, as Nickerson Chemicals Limited cannot know the varied uses to which its products may be applied, or the methods of application used, no warranty as to the fitness or suitability of its products is given or implied. It is the users responsibility to determine suitability of use. For further information please contact our Technical Department.