



## KINGFISHER SET RESIN

### DESCRIPTION.

**Kingfisher SET RESIN** is a rapid curing “one shot” two part chemical anchoring system, based on an unsaturated polyester resin in Styrene.

The product is supplied in 380ml cartridges and can be applied in one single action to produce a cost effective, tough, chemical resistant anchor fixing.

Unlike expansion anchors it is ideal for close to edge applications as no stress is placed on the surrounding substrate.

Versatile in use, **Kingfisher SET RESIN** 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 **Kingfisher SET RESIN** in conjunction with sleeve or sieve.

### PREPARATION.

1. Drill a hole of the correct diameter and depth (see guide chart Fig.1), 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 stiff rotary brush.
3. All bars should be clean and free from oil and 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. Attach the mixing nozzle to the cartridge and screw down hand tight.
2. Place the cartridge in the **Kingfisher SET RESIN** dispensing gun.
3. Open the cartridge by pressing the **Green** end of the colour coded valve. Gradually pressurise the cartridge by activating the hand trigger a couple of times until material passes through the mixing nozzle. Stop pressurising and allow the material to flow until an even colour is obtained. (Approximately 5-6 inches of extruded material should be adequate).
4. Press the **Red** end to close the valve. Insert the nozzle into the base of the hole. Open the valve again (Press **Green** end) and activate the trigger. Withdraw the nozzle slowly as the hole fills.
5. Once the required fill is achieved shut off the valve and wipe off any excess material. Insert the fixing slowly with a rotating action until the desired depth is reached. Once all applications have been carried out, release the pressure by pressing the slide release arm on the back of the trigger stop and pulling back the slide rail.

Note: - Once material has started to extrude through the nozzle over-pressurising the system will not increase the flow rate and can cause leakage from the rear of the cartridge.

**TECHNICAL DATA.****Fig.1.**

ANCHOR SIZE (mm)	HOLE DIAM. (mm)	HOLE DEPTH (mm)	TENSION (kN) (Ultimate pull out)	FIXINGS /UNIT (Holes filled 2/3 full)	
				150ml	380ml
8	10	80	22.56	32	86
10	12	90	29.40	20	53
12	14	110	31.72	12	32
16	18	125	72.45	6	17
20	22	170	78.76	3	8
24	26	210	106.06	1	5
30	32	280	179.54	-	2

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

The ultimate pull out strength is varied by:

- i) The strength of both the substrate and the bar/stub.
- ii) The length of the resin bond to bar.
- iii) Hole preparation.
- iv) Anchor separation.

Safety factors should be considered depending on the strength of hollow blocks and bricks, tension figures may vary. Site tests 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 2 times the embedment depth and 1.25 times the embedment depth for the minimum distance from edges.

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

**Fig 2.**

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) - 48N/mm<sup>2</sup>
- Tensile Strength: (ASTM 638) - >10 N/mm<sup>2</sup>
- Flexural Strength: (ASTM 790) - 20 N/mm<sup>2</sup>
- Elastic Modulus - 4206 N/mm<sup>2</sup>
- Flexural Modulus: - 3238 N/mm<sup>2</sup>
- Mixed Density: - 1.65 g/cm<sup>3</sup>

**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 of the product.

**HEALTH and SAFETY.**

**Kingfisher SET RESIN** contains Styrene and is flammable.

Do not smoke and do not allow naked flames to come into contact with this material.

Avoid breathing vapour and wear suitable protective clothing such as gloves and overalls.

On contact with skin, wash off immediately with plenty of soap and water.

For further Health and Safety information on this product please refer to the Kingfisher Safety Data Sheet, copies of which are available from the Kingfisher Technical Dept. Tel. 01229 869100 or Fax 01229 868101.