WESSEX
RESINS+ADHESIVES

Wessex 4302

(UW 43)

UNDERWATER EPOXY

Technical Data Sheet

DESCRIPTION

Wessex 4302 is a two-component epoxide based adhesive specifically formulated to (a) cure at temperatures as low as 5°C, (b) bond mild steel, glass reinforced plastics and similar materials when totally immersed in either fresh or sea water and (c) tolerate some oil or grease contamination on the bonding surfaces. Thus this adhesive is capable of forming strong bonds under conditions normally regarded as unacceptable for adhesives.

MIXING

Method	**Resin : Hardener**
	Part A : Part B
by Weight	1 : 1

The yellow low viscosity epoxy resin component (“Part A”) is mixed with the blue hardener component (“Part B”). Equal weights of the resin and hardener are blended thoroughly together. The differently coloured components provide a visual aid to complete mixing which is indicated when the adhesive forms a uniform green colour.

Small quantities of up to 500g can be mixed by hand, but for larger quantities the use of a mechanical mixer is strongly recommended. Those employing a planetary action have been found to be satisfactory.

Keep containers closed when not in use to avoid contamination.

STORAGE

System 4302 Parts A and B should be stored in a warm dry environment where a temperature of between 10°C and 30°C can be maintained. To avoid “skinning” of the hardener component after use it is recommended that the polythene film is replaced in intimate contact with the surface of the material. Keep containers closed when not in use to avoid contamination.

USABLE LIFE

When the resin and hardener are mixed the gel time of a 500g batch of Wessex 4302 epoxy is approximately 30 minutes at 20°C and should therefore be used immediately after mixing.

SURFACE PREPARATION

Although Wessex 4302 is tolerant of some contamination, best results are obtained on well prepared surfaces. Ideally, surfaces should be mechanically abraded

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to provide the maximum mechanical key and be free from grease, moisture and dust particles and a solvent wash will remove any contamination. If glass fibre laminate forms part of an underwater primary or otherwise important structure, which is in contact with water such as a hull or dome, preparation should be confined to abrasion of the resin alone and the glass should not be exposed.

When the adhesive is used to make an emergency repair, it will not always be possible to make ideal surface preparations and, in some cases, the effectiveness and/or durability of the bond will be impaired. Decisions regarding surface preparation must be taken on site dependent upon the situation in hand, but advice can always be obtained from Wessex Resins & Adhesives Limited.

APPLICATION

1. Apply freshly mixed adhesive and work thoroughly into both mating surfaces prior to making the joint. The adhesive may be applied in quite thick sections if gaps need to be filled.

2. Spread as evenly as possible with the minimum entrapment of air and work thoroughly into both surfaces.

3. Hold bonded surfaces together by light clamping or suitably placed weights until set.

4. Do not subject to heavy stress until final cure time has elapsed.

EMERGENCY REPAIRS

Emergency repairs to leaking pipes, tanks and joints may be made by using the Wessex 4302 or Wessex 4303 epoxy in conjunction with an open cell soft foam carrier. The adhesive should be mixed in the usual way and then worked thoroughly into a precut foam pad of the appropriate size and shape. The impregnated pad is then pressed strongly against the leak and held in place with a shaped metal backing plate for example, throughout the curing period or until a sufficiently high joint strength has been developed. In certain circumstances, a hot air blower may be used to accelerate this curing process and an adequate bond strength may be developed within an hour. In any event, if the repair is to be successful, the leak will be stopped immediately upon application of the resin soaked foam, in which case there will be no objection to leaving the clamping device in position for as long as necessary.