Anglian Fasteners

CARTRIDGE No1
-A Pre-packed two part polyester cartridge

HIGH STRENGTH FAST CURING POLYESTER RESIN

Where to use

- As a bonding agent.
- Where a waterproof bond is required.
- Where a chemically resistant bond is required.
- Where a vibration-proof bond is required.
- When bonding near to an edge.
- Where a stress free bond is required.

Applications

Anchoring of machinery. Permanent installation of Reinforcement, dowelling and starter bars, foundation Bolts, hand rails, safety fences, wall tiles, rail track, tie-back Anchors,etc…

Advantages

- Excellent adhesion.
- Rapid strength gain.
- High strength.
- Corrosion resistant.
- Resistant to thermal recycling.
- Low temperature cure.
- May be used in overhead applications.
- Pre packed ready for use.

Product

A high strength, fast curing, thixotropic grout/adhesive. Pre packed in 10:1 ratio cartridge for ease of use.

Description

A plastic cartridge containing a base resin consisting of a polyester resin, a catalyst consisting of organic peroxide, and inert fillers in a paste form.

Pack size

380ml. cartridges

Introduction

Cartridge No 1 has been specially formulated as
A thixotropic, high strength grout for the permanent
Anchoring of bolts into concrete or brickwork.
It is equally suitable for bonding together most materials
Found on construction sites (consult or technical
Department if in doubt)

Cartridge No1 will when used correctly, provide a high
Strength bond, which is weatherproof, chemical resistant,
Vibration proof and stress free.

Typical properties

Gel & cure times

Temperature Deg.c.	Gel time Minutes	Minimum cure before loading Hours
5	15	3
10	10	2
20	7	1.5
30	5	1

Typical tensile and shear strengths to B.S.5080 in 25KN
Concrete.

Fixing diameter (KN)	Tensile (KN)	Shear
M8	19.0	13.5
M10	21.7	16.5
M12	41.0	29.5
M16	75.0	49.0
M20	105.0	72.0

How to Use

Preparation

Holes should be formed, a minimum of 2mm. greater diameter than the bolt to be inserted, using rotary percussive drilling techniques. If it has been necessary to

diamond drill the holes, then they should be roughened or under reamed.
Pre-cast holes should have their sides roughened prior to filling.
All dust, drilling debris and other contaminants should be removed, bars and bolts should be degreased and all rust removed

Application

Remove the cap and protective insert from the cartridge and screw on the static mixer nozzle. Fit the cartridge into the applicator gun and gradually apply pressure by activating the trigger until material exudes from the end of the nozzle. Stop pressurising and allow the resin to flow until a uniform colour is achieved.

Insert the nozzle into the base of the hole and activate the trigger, removing the nozzle slowly as the hole fills. Once sufficient resin is in the hole, release the pressure, wipe excess resin from the nozzle and place the stud to be fixed into the hole with a twisting action to ensure full contact between whole side, resin and stud.

Allow the resin to cure fully before loading.

Partly used cartridges are reusable. Remove the mixing nozzle, wipe away surplus resin and replace the nose plug and cap.

Storage Life

At least twelve months in manufacturers unopened cartridges in sealed containers if stored between 4 & 20 deg. C

Approximate Number of Fixings per Cartridge

Bolt dia mm	Hole dia mm	Hole depth Mm	380 ml
8	10	80	110
10	12	90	60
12	14	110	40
16	18	125	20
20	22	170	9
24	28	210	5

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1. **Substance/preparation and company identification.**
   Chemical nature : Organic peroxide – cure unsaturated polyester resin grout (in a sealed cartridge)

   Company details : Anglian Fasteners Limited
   Shuttleworth road
   Elms Ind est.
   Bedford
   MK41 0EP
   Tel. 01234 345641

2. **Composition/ information of ingredients**
   Contains : unsaturated polyester resin in styrene, dibenzoly peroxide, dibutyl phthalate, and inert fillers.

No	% w/w	CAS Number	Name	EEC Number	Symbol	Risk phrases
1	10-15	100-42-5	styrene	601-026-00-0	Xn	R10,20,36/38
2	2-3	94-36-0	Dibenzoyl peroxide	2023276	Xi	R2,36,43,7
3	1-2	84-74-2	Dibutyl phthalate	2015574	None	None

3. **Hazard identification**
   Note: in use the product presents minimal risk as the material is largely contained within the cartridge system.
   Flammable; harmful by inhalation; irritating to eyes and skin; may cause sensitisation by skin contact.

4. **First aid measures**
   Skin contact
   In case of skin contact wipe off mechanically, and wash afflicted area thoroughly with soap and water.

   Eye contact
   Rinse carefully and thoroughly with water and seek medical advice.

   Inhalation
   Move to fresh air, rest, half upright position,loosen clothing. Seek medical advice after significant exposure.

   Ingestion
   DO NOT induce vomiting because of risk of aspiration. Seek medical advice.

5. **Fire Fighting Measures**
   Suitable extinguishing media — CO_2 , foam, dry powder.
   Unsuitable extinguishing media — Halones
   Exposure hazards
   If involved in a fire, it will support combustion. Do not breath fumes. Wear suitable protective clothing. Cool closed containers with water.

6. **Accident release measures.**
   Personal precautions — **For personal protection see section 8**
   Remove source of fire
   Environmental precautions — Collect as much as possible in a clean container for reuse or disposal. Do not empty into drains.
   Method for cleaning — Sweep up into inert container. Absorb the remainder with dry sand.

7. Handling and storage.

Handling

Observe the necessary precautionary measure for styrene. Ensure adequate ventilation. Do not inhale vapour.

Avoid contact with skin and eyes.

Storage

Store in a cool, well ventilated conditions away from direct sunlight. Store upright.

8. Exposure control/personal protection

Technical protective measures	Provided by design of cartridge
Exposure control limits	Styrene:100ppm or 420mg/cu.m.(8h T.W.A) Dibenzoyl peroxide 5ml/cu.m.(8h.T.W.A)
Respiratory protection	Provide adequate ventilation The usual precautionary measures for handling chemicals should be observed.
Hand protection	Wear suitable gloves of neoprene pr synthetic rubber.
Eye protection	Wear eye/face protection.
skin protection	Wear suitable protective clothing. Launder clothes before use.

9. Physical and chemical properties.

	Base	**Catalyst**		**Base**	**catalyst**
Melting point/range	N/A	N/A	Appearance	Paste	Paste
Boiling point/range	145 deg.C	Decomposes	Odour	Characteristic styrene	Faint
Oxidisation properties	N/A	N/A	Density	1.49 Typical	1.19 typical
Autoflamibility	-	-	Flashpoint	32deg.C	Above SADT
Solubility in water	Insoluble	Insoluble	Ignition	490deg.C	380drg.C
Vapour pressure	7m.bar@20Deg.C	-	Viscosity	Thixotropic	Thixotropic
			SADT	-	50deg.C
			Explosive limits	1.1% by volume (lower) 8.0% by volume (upper)	

10. Stability and Reactivity.

Product is stable and non reactive whist in cartridge.

Thermal decomposition

The catalyst undergoes self acceleration decomposition at and above 50deg.C

Conditions to avoid.

Temperatures above 30deg.C; exposure to direct sunlight; naked flames.

Materials to avoid

Direct contact with acids, alkalies, reducing agents, or heavy metal salts.

Hazardous decomposition products

Not determined…

11. Toxicology information

LD50 acute oral toxicity in rats: 5,000mg./kg.

Special properties: In high concentration styrene has irritating effects on eyes and mucous membranes. Skin contact may cause skin irritation.

12. Ecological information

Prevent contamination of soil. Drains or surface water.
(styrene) acute bacterial toxicity; ECOO=72m/l
(catalyst) acute toxicity (fish) 96h-Lc50=2.0mg./l(Poecilia reticulate)
(styrene) acute toxicity (fish) 48h-Lc50=17mg.L(Leuciscus Idus)

13. Disposal conditions

Controlled incineration according to local authority regulations

14. Transport Information

Store away from foodstuff.

RID/ARD	Class RN No.301D
IMDG/Code	3.3,Un 1866 (page 3379)
IATA	3,1866 III
FLASHPOINT	32 Degree C (styrene)

Flammable; Marine pollutant; Irritating skin and eyes; harmful by inhalation.

15. Regulatory information

Symbol	Xn – Harmful
Contains	Resin solution in flammable solvent (styrene)
R10	Flammable
R20	Harmful by irritation
R36/38	Irritating to eyes and skin
S23	Do not breath vapour

The product is supplied in sealed containers. Although there is no requirement in normal use to work with the constituent raw materials, they are subject to occupational exposure limits (OEL) or occupational exposure standards (OES) as follows:

Substance	*% by weight*	Long term exposure limit (sh TWA)	Short term exposure limit (10 min.TWA)
Styrene	*10-15*	100ppm(420mg/cu.m)	250ppm (1,050mg/cu.m)
Dibenzoyl peroxide	2-3	5.0mg/cu.m	-