USER GUIDE (UG830/17)

AC830

JESMONITE® MADE FROM

INTRODUCTION

Jesmonite® AC830 is supplied as two components, a water-based acrylic liquid, and a blended base. It is formulated for external use and contains a blend of decorative aggregates and pigments to achieve a range of stone finishes. AC830 is a rapid setting acrylic polymer modified cementitious casting composite. It is a shrinkage-compensated material of low permeability and is durable in all conditions of external weathering. The compound is designed for fine decorative castings and is suitable for statuary, water-features, and decorative cast objects that are externally durable and frost resistant.

PREPARATION

It is essential to use both accurate scales and a Jesmonite High-shear Mixing Blade to ensure that the compound performs within its specification. Failure to follow these instructions can lead to strength loss, shrinkage, and reduced durability. Workshop conditions should be warm, dry, and out of direct sunlight. Environments where solvent-based compounds are in regular use should be avoided. Mixing containers should be clean and dry, and of a suitable size.

MIX RATIOS

For fine decorative castings, weigh the Liquids and Base into separate clean containers at the following ratio:

AC730 Liquids	1 part by weight
AC830 Base	7 parts by weight
Super Plasticiser	8 – 12g/kg of mix.

MIXING

Jesmonite AC830 must be mixed using a High-shear Mixing Blade. Attach this blade to a drill with variable speed control on the trigger and slowly add the Base to the Liquids whilst mixing continuously at low speed. As the last Base is added, slowly increase the mix speed to around 1,000rpm and mix for a further 60 seconds or until the mix is smooth, flowing and free from lumps.

RETARDER

Retarder is added to the pre-weighed liquids to extend the pot-life of the mixed material. Typical inclusion rates are 2g – 8g, however a small test is recommended, as the precise timing is dependent on both temperature and mix size.

JESMONITE SUPER PLASTICISER

Jesmonite Super Plasticiser is added between 8–12g/kg of mix, primarily to aid ease of casting. However it also gives additional benefits in terms of ultimate strengths and durability.

PVA FIBRES

PVA Fibres are added at 1–2% of the total mix weight to give both additional strength and frost resistance. N.B. We do not recommend using the Jesmonite High-shear Mixing Blade when adding the PVA Fibres to the mixture as the blade will break up the fibres. The PVA Fibres should be stirred in by hand, this will ensure that the fibres keep their shape.

SOLID CASTING

Jesmonite AC830 is designed for fine decorative castings. To reduce the chance of air bubbles at the surface of the cast, first pour a little material into the mould whilst spreading the material around with a brush. This is applied to stop the reinforcements showing on the face of the cast. The rest of the back-up mix which includes the PVA Fibres can now be poured, a little at a time, whilst tapping or vibrating the mould to help release any further entrained air.

CURING

Jesmonite AC830 achieves over 90% of its ultimate strength in the first 24 hours. Cast objects should be kept in a warm, dry environment during this period. They should be racked to allow optimum air-flow, and stored in such a way that panels cannot 'creep' or bow under their own weight. Finished products should be packaged only when cured. Care should also be taken when using plastic packaging, particularly in damp storage areas, as this can lead to surface staining and possible water marking.

SURFACE FINISH

Jesmonite AC830 is formulated to result in a stone finish. This is achieved either by acid etching, or by grit-blasting. The product can only be acid etched after curing for a minimum of 24 hours. First wet the surface of the cast with water before applying the acid solution. This will reduce the chance of the acid marking or burning the panel where it is first applied. To apply acid etch, the area must be well ventilated, and near a ready supply of clean water. The acid will produce varying degrees of etch from 1 minute through to around 4 minutes. The acid works by removing the surface to reveal the decorative aggregate and pigment in the material. The acid should be washed off with copious amounts of clean water, and the surface padded dry with a clean dry cloth. Once the surface is dry it becomes evident if there are any areas that require a further application.

STORAGE

As a basic rule liquid containers should be kept well sealed to prevent water evaporation and skin forming. They should be stored at a constant temperature between 5–25°C and used within six months. Freezing must be avoided. Base should be kept dry and stored at 5–25°C.

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THE KEY BENEFITS OF USING JESMONITE

Stronger
Strong, flexible and more durable, making it high impact resistant.

Finer
Replicates the very finest detail.

Greener
Water-based not solvent-based making it kinder to the environment.

Lighter
Lighter than stone, glass-reinforced concrete, sand and cement products – perfect for film sets.

Safer
Fire-resistant with a class zero fire rating, reduced smoke density and toxicity characteristics. Solvent free with no VOC's.

More choice
Can be pigmented to any colour or RAL reference. It can also mimic any texture and reproduce the effect of materials such as stone, metal, wood, leather and fabric.