

JESMONTE[®]
MADE FROM



Jesmonite AC200 User Guide



INTRODUCTION

Jesmonite® AC200 is supplied as two components, a water-based acrylic liquid, and a mineral base. The material is formulated for making masters and prototypes for moulding and sets to a hard but easily carved surface finish. The hardened material can then be machined or shaped using a variety of tools including CNC machines, routers, rasps, chisels etc., and can then be finished with sandpaper prior to moulding. The master can then be moulded using a rubber moulding compounds. AC200 is also an excellent adhesive for polystyrene, PU tooling board, and styro foam board. Project specific advice can be obtained by calling our technical department on +44 (0)1588 630302.

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, slow cure, 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

The standard mix ratio for AC200 is as follows.

AC200 Liquids 1 part by weight

Jesmonite Base 2 parts by weight

NB. It is also possible to mix the material into a thick paste to produce a fast set which will help to fill joints, air bubbles, or to join castings.



HOW MUCH WILL I NEED?

For casting, every 1,000ml of mould volume will require 1,750g of mixed Jesmonite AC200. 1,750g Jesmonite AC200 = 1,000ml. By volume

MIXING

Jesmonite AC200 must be mixed using a Jesmonite 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 30 – 45 seconds, or until the mix is smooth, flowing and free from lumps.

ADDING PIGMENTS

If a colour is required, Jesmonite paste pigments can also be added to a maximum of 2% by weight, or 20g per kilo of total mix. Please see AC100 Instructions for more detail on adding pigment to AC200.

THIXOTROPE

Thixotrope is added to the mix to thicken the material to a ‘gel-coat’ consistency. This is useful when brushing or spraying materials onto moulds with vertical faces as it prevents the material from slumping. Thixotrope is added to the mix after the powders, and is mixed in using the High-shear Mixing Blade. Add drop by drop until the desired consistency is achieved. Typical inclusion rates by weight are 2g – 6g per kilo of mix.



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.

CASTING

For simple casts pour a small amount of the mix into the mould. With a brush, coat all accessible surfaces with material to help reduce air bubbles. If access is difficult then rotate the mould so that the mix flows over the surface. Gentle tapping will also help ensure that air rises to the back of the cast.

CURING

Jesmonite AC200 is a water-based compound, and as such it requires evaporation of any excess water to achieve full strength. Care should be taken at the point of de-mould, as the material can break easily if put under too much strain. Soft, flexible rubber moulding materials must be used for delicate objects with thin sections. Once de-moulded place the objects in a warm, dry environment. Dependant on thickness full strength will be achieved in 24 – 48 hours. Ensure that objects are placed in a suitable rack, or on a shelf where air can circulate. Staining can occur if objects are placed against plastic before all excess water has evaporated.

SURFACE FINISH

Jesmonite AC200 contains a high quality pure acrylic resin that can be polished with a clean cotton cloth. Excellent results can be achieved with a wide range of waxes and polishing machinery, and Jesmonite AC200 is also compatible with a wide range of water-based sealers and varnishes.



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 twelve months. Freezing must be avoided. Base should be kept dry and stored at 5 – 25°C. Shelf life is nine months from the date displayed on the packaging.

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The above information and recommendations are based upon our experience and are offered merely for advice. They are offered in good faith but without guarantee, as conditions and methods of use are beyond our control. It remains the responsibility of the end user to determine the suitability of the materials for the particular purpose intended.

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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 with superior weathering qualities.



Lighter

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



Greener

Water-based making it kinder to the environment.



Safer

Independently fire rated in accordance with European Fire Classification EN 13501-1. 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.