

Puma Polymers

PO Box 5667, 2003 Curtain Pole Road, Chattanooga, Tennessee 37406 USA
Tel: 877-744-0499 toll free. Tel: + 1 423 697-0499 www.pumapolymers.com

MASTER WORKS™ Casting with Master Works M1



1 Product Preparation

Master Works™ M1 is a two component liquid polymer casting and laminating resin system, designated Component A and Component B. (For more information see the Master Works™ M1 Data Sheet).

Weigh/measure both components separately in the ratio as indicated on the product containers. If pigment is required, this should be added to the A Component. (See Master Works™ Pigment Data Sheet for addition ratios).

If the product is required to be filled, the filler should be added to both Components A and B. (See Filler Guidelines for more information).

If the product set time needs to be slowed down, Master Works Retarder must be added to Component A at this stage. (See Master Works™ Control Additives Data Sheet for retarder use guidelines).



2 Mixing

Pour both components together into a separate container large enough to take the quantity of Components A and B.

Using a Master Works™ high shear mixing blade in a power drill, keeping the blade -- immersed in order to avoid entrapping air, mix until thoroughly incorporated.



3 Mould Preparation

The mould to be used should be thoroughly clean and free from dust and other contaminants.

If the mould is a rigid mould or polyurethane, a suitable release agent should be applied. If the mould is silicone, no release agent is required.

DISCLAIMER OF LIABILITY

The information above is given in good faith as a guide for material use. However it remains at all times the responsibility of the customer to ensure that the material is fit for the particular purpose intended. The Master Works Trade Mark is the property of the Rohm and Haas Corporation.

Puma Polymers

PO Box 5667, 2003 Curtain Pole Road, Chattanooga, Tennessee 37406 USA
 Tel: 877-744-0499 toll free. Tel: + 1 423 697-0499 www.pumapolymers.com



4 Gelcoating

The use of gelcoats is optional when casting. The gelcoat is simply a thickened version of the base material.

If the gelcoat is to be thickened, follow the product preparation guidelines above and then add a few drops of Master Works™ Thixotrope. Only add the thixotrope after all the other components have been mixed together. Continue to add the thixotrope slowly until the desired consistency is achieved. Thixotrope addition is normally a few drops per kg mass of mixed material.

The gelcoat should be brushed onto the mould surface and into mould recesses at a thickness of no less than 2mm. This ensures the gelcoat covers all surfaces and releases any potential air entrapment.

5 Casting

When the gelcoat begins to show early signs of setting, the bulk material should be poured gently into the mould.



To release air, the mould should be periodically shaken or gently vibrated during the pouring process.

If the Master Works™ casting is simply a homogeneous filled or pigmented mass, one mix can be made for the entire casting. However if the casting requires gelcoating, separate the material required for the gelcoat layer, add Master Works™ Thixotrope as above and retard the bulk remainder for the mass casting.

The bulk material can be extended by the use of fillers. Fillers can also be used for decorative purposes, to change the physical properties of the casting, to alter the weight and/or to lower the cost.

If the casting is simply mass pigmentation, one mix can be made for the casting. Large castings may require the use of Master Works™ Retarder to ensure that the material does not harden in the mixing container whilst pouring.



6 Setting and Cleaning Procedure

Once the mould has been filled leave it to stand undisturbed until the material has set. All Master Works™ products are water-soluble and tools such as brushes, rollers and mixing blades should be washed with water immediately after use.

To clean mixing vessels: with plastic buckets the material can be allowed to harden and then loosened by beating the sides of the container and disposing of the solid material; metal/solid containers should be washed with water before the material sets.

DISCLAIMER OF LIABILITY

The information above is given in good faith as a guide for material use. However it remains at all times the responsibility of the customer to ensure that the material is fit for the particular purpose intended. The Master Works Trade Mark is the property of the Rohm and Haas Corporation.

Puma Polymers

PO Box 5667, 2003 Curtain Pole Road, Chattanooga, Tennessee 37406 USA
Tel: 877-744-0499 toll free. Tel: + 1 423 697-0499 www.pumapolymers.com



7 Demoulding

Once the Master Works™ material has fully hardened dismantle the mould casing and remove the silicone rubber mould containing the cast material.

Remove the Master Works™ casting from the silicone mould at the earliest possible stage. At this point it should be hard but will not be fully cured.



8 Curing and Strength Development

As the Master Works™ product is water based, there is a residual quantity of water that needs to evaporate from the product before the final strength and surface properties are achieved.

The drying cycle will be dependent on mass and drying conditions. The larger the mass and end product cross section the longer it will take to reach full cure. Maintaining the product in a heated oven at 400c-600C for 6-12 hours will speed up the curing process.

If the product is to be packaged, it should be fully cured before being packed to avoid condensation in the packaging material.

If the product is to be painted or patinated, it should be fully cured. This is especially important if non-vapour permeable coatings are being used.

As a general guide products should be left to cure for 72 hours before coating. If the conditions are cold and damp this period should be extended.



DISCLAIMER OF LIABILITY

The information above is given in good faith as a guide for material use. However it remains at all times the responsibility of the customer to ensure that the material is fit for the particular purpose intended. The Master Works Trade Mark is the property of the Rohm and Haas Corporation.