

Flexil - HMC

1. DESCRIPTION

Flexil Hot Melt Compound is a solid flexible PVC preparation that can be melted and poured over a plaster or stone model. Once cooled **Flexil HMC** regains its original nature holding the shape of the model.

2. ADVANTAGES

- Faithful reproduction
- Variety of different hardness
- Good dimensional stability
- The facility to re-melt and re-use old moulds
- Excellent mould life with good mould release
- Low fuming of melted product

3. APPLICATIONS

Flexil HMC can be used as a flexible moulding material for the reproduction of plaster or reconstituted stone articles.

4. CHARACTERISTICS

a)

	Hardness Shore OO	Melting Viscosity	Relative Strength	Melting Point °C
VSO1 Red	55	##	***	130-150
MH02 Blue	60	##	***	130-150
H15 Yellow	70	#	**	130-150
HT06 White	60	####	****	140-160
VHT18 Orange	60	#####	*****	150-160

b) VARIETY OF APPLICATIONS:

Grade	Typical Applications
VSO1 Red	General purpose, high detail moulds.
MH02 Blue	Comices & general purpose moulding with moderate relief.
H15 Yellow	Moulds for polyester laminates & plaster.
HT06 White	Moulds for polyester & concrete casting.
VHT18 Orange	Heavy duty e.g. concrete - High Strength.

c) PREPARATION OF MODEL:

Bubbles are caused only by the expansion of air, due to heat from the Flexil HMC, which is trapped under the model to be cast, or within the model, due to porosity.

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Surfaces of the model that will come into contact with the Flexil must be sealed. To do this, a solution of 5-7% PVA in water is recommended. Allow drying between each of the 2-3 coats applied. A final seal of Vernacryl may also be applied. Do not treat the underside.

To ensure that there is not air trapped under the model, it should be bedded onto clay.

When the model is heated, air within the model (porosity) will expand and break the PVA sealer. To avoid this, it is suggested that holes are bored into the baseboard under the model, (and into the model if possible) to relieve the pressure, and allow the air to escape. The baseboard should also be propped up to allow free movement of the expanded air.

Two further points to bear in mind are:

- i) If the model is warmed before pouring Flexil some improvement will result.
- ii) Flexil should be poured onto the backing board at the lowest point, thereby rising and pushing air upwards.

d) **MELTING PROCESS:**

Only thermostatically controlled melting equipment should be considered (for advice, refer to Jacobson Chemicals Ltd). Good ventilation should be provided in all working areas. Adequate extraction should be provided where hot processing may lead to the formation of fumes.

Tear pre-cut slabs of Flexil HMC into and melt a small amount initially at the recommended temperature. Add further material to the melted Flexil HMC as required, stirring gently and frequently.

Once the Flexil HMC is fully melted, allow it to stand for a short period prior to pouring to allow air bubbles to escape.

Ensure Flexil HMC is melted and held at the recommended Pour Temperatures.

e) **POURING FLEXIL HMC**

Melted Flexil HMC should be poured to the lowest point of the boxed masters in a steady stream allowing the liquid Flexil HMC to rise, filling the detail and pushing any trapped air before it.

f) **DEMOULDING**

Once the mould has cooled, remembering that the center will cool last of all, the Flexil HMC mould may be removed from the master and put into production. To give the best results, the period of cooling, dependent upon the mould size may be up to 24 hours.

g) **RE-USING OLD MOULDS**

When recycling old moulds they should be cut up into 1" cubes and blended at not more than 20% with fresh product.

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5. TROUBLE SHOOTING - WHAT IF?

a) **HIGHER THAN RECOMMENDED TEMPERATURES ARE USED?**

The potential of extensive re-melting Flexil HMC will be reduced, as could be the life of the resultant mould.

b) **FUMING IS EXCESSIVE?**

Flexil HMC is a very low fuming product and it would be expected that excessive fuming would be the result of too high a temperature being used, or the re-meltable life span was expiring.

c) **FLEXIL HMC BASE COLOUR DARKENS?**

This again is an indication that excessive temperatures are being used or the material is reaching the end of its ultimate life.

d) **ISOLATED CHARRING OCCURS?**

This could be due to localised overheating due to insufficient stirring during the melting process or a malfunction in the temperature control of the electric melting pot.

6. PACKAGING

Flexil HMC is supplied in 25-kg bags.

Each bag contains 5-6 slabs of pre cut cubed **Flexil HMC**.

7. HEALTH & SAFETY

(Refer to Health & Safety Data Sheet)

Flexil HMC grades are prepared using only constituents recognised as having a very low order of toxicity.

IT MUST ALWAYS BE REMEMBERED THAT MOLTEN **Flexil HMC** CAN CAUSE SERIOUS BURNS, MORE SEVERE THAN THAT OF BOILING WATER. THE UTMOST CARE SHOULD BE TAKEN IN USING MATERIAL AT THESE TEMPERATURES.

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