

## Methodology | Influence of Master Works™ Retarder

### Introduction

Master Works™ retarder is intended for use with both Master Works™ M1 and Master Works™ M2. This guide shows the effect of Master Works™ retarder when added as a 16% solution in 0.25 % increments from a base line of 16 minutes to initial set (K).

### Guidance

Only retard the set time for as long as is required for the intended application,

The slowing of the initial set affects all setting phases therefore de mould times are affected which will lead to lower production units per day.



#### **NB: The retarder only acts on the A component,**

On individual batches retarder can be added to the whole mix but is only calculated on the A component.

This means that once you have calculated the required amount of retarder you can modify the entire batch of the A component and all subsequent applications will have the same initial set times.

Furthermore in warm environments the exposed surface can “dry” and not “set”, this causes “crazing” of the surface, which is unsightly.

### To Conduct A Knife Test

#### Equipment required:-

A piece of safety glass with rounded edges (not sharp) approximately 300mm square.

Release agent

Accurate scales

A sharp knife

Plastic beakers (coffee machine type will do)

Mixing sticks (tongue depressors are excellent)

Electronic timer (most phones have one built in)

#### Method

Apply release to the glass.

Pre mix both the A component and the B component separately in their pails as delivered.

It is “good housekeeping” to mix the A component first and then the B component,

Wash the high shear mixing blade between mixing component A and component B.

Mix both in their separate pails until the product is homogenous (fully dispersed)

Weigh 100g component A into a beaker and add 45g component B on top of the A.

Start the timer and mix with for 30 seconds (Using a mixing stick) until fully mixed.

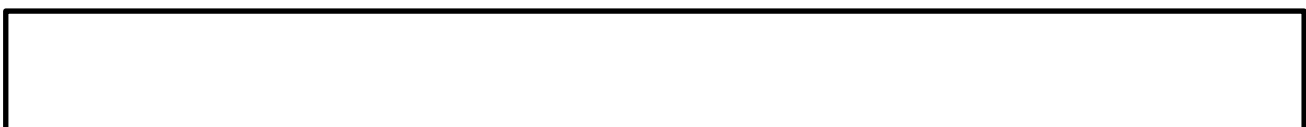
Pour onto the glass sheet, lift a corner of the glass and gently tap onto the bench, you should get a disk of circa 120mm.

Leave for 12 minutes or so.

Draw the knife through the disk from the center and tap the glass again,

if the material moves or “heals” the knife mark, you need more time.

Repeat this test every minute until there is no movement of the material.



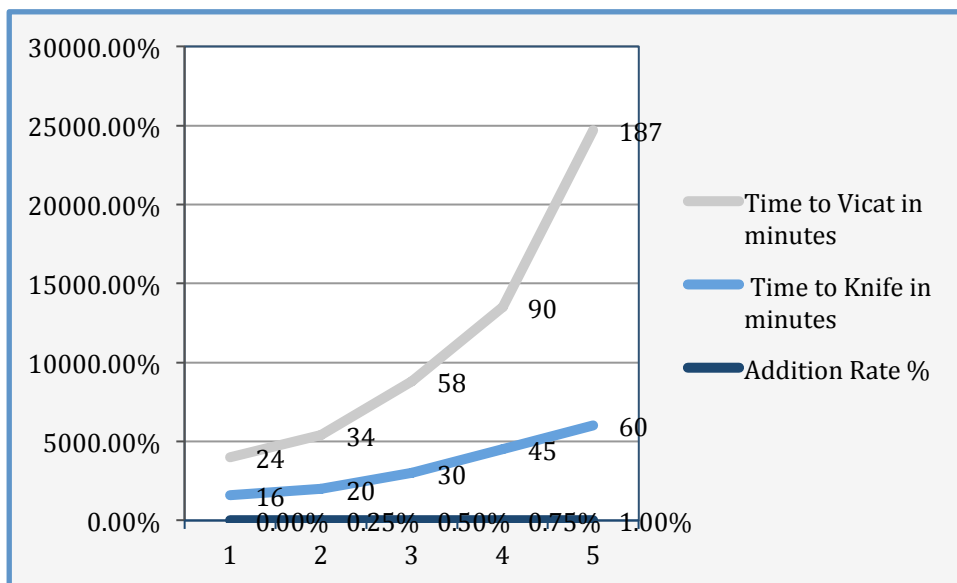
From the knife set (initial set) you can then calculate the required amount of retarder for desired set time, add retarder and test again to be sure you have the set time you need.

Then you can dose either the pail or the batch or multiple pails.

## Addition Rates

Total Weight	A	B	Retarder	%	Time (Mins) from base
1 Kg	690g	310g	0.00	0.00	16 (Base)
			1.72g	0.25	20
			3.45	0.50	30
			5.17	0.75	45
			6.9	1.00	60

## Influence of Master Works Retarder



Influence of Master works retarder at 16% solution on the weight of Masterworks component A - added in 0.25 Increments.

### 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.

