

MATCHMAKER PRESS INVESTMENT

ADDITIONAL INSTRUCTIONS FOR REFRACTORY VENEERS & INLAYS

DIRECTIONS FOR USE

INTRODUCTION

These directions cover the requirements for refractory veneers and inlays. **Full Directions for Use, Health & Safety information and Warnings are shown overleaf.**

Proportions

Mixing ratio	100g: 22ml liquid
Mixing time	1 minute under vacuum
Working time	5-7 minutes
Heating Rate- Burnout	17-18°C per minute

Recommended liquid concentrations overleaf.

POURING THE MODEL

It may be possible to pour Matchmaker PRESS Investment models directly from an original impression depending on hardness and elasticity. However, for best results it is recommended that the master model is duplicated using Schottlander Flexisil and then the investment model poured in the resultant mould.

Mix by hand for 15 seconds and then vacuum mix for 60 seconds. Allow to set for a minimum of 1 hour.

For final fitting of the restorations a stone model should also be poured.

BURNOUT

Use a burnout or porcelain furnace and carry out on the same day as the model is poured.

No vacuum is required.

Remove impression and place investment model in burnout oven at room temperature, heat to 1000°C raising the temperature by 17-18°C per minute. Hold top temperature for five minutes.

TRIMMING

After burnout, when cool, the investment model may now be sectioned and trimmed if required. Carefully remove dust with a soft brush. Place dies in a porcelain furnace and run veneer dentine cycle.

APPLICATION OF MATCHMAKER PORCELAIN

Place the investment model on a wet sponge partly submerged in distilled water and allow to absorb water from the base until fully moistened.

Apply a thin base layer of Matchmaker (depending upon requirements and Matchmaker system).

Due to the absorption of heat by the investment model it is necessary to increase the firing temperatures above those used with ceramic alloys. The increase required will depend upon the size of the investment model but one of 20°C is suggested for initial evaluation.

Dry the investment model for nine minutes with a low temperature setting of 550°C. Fire at a climb rate of 60°C under vacuum to 10°C above your normal dentine firing temperature plus the increase mentioned for the investment model.

Slow cool from high temperature down to 800°C over a period of 5 – 8 minutes. When the investment model is fully cooled place on sponge and allow to absorb moisture as previously.

For the second firing apply dentine and enamel and fire at your normal temperature plus the increase for the investment model.

CARE

All firings must have a minimum of nine minutes drying to avoid the generation of steam which may lift the porcelain from the investment model. It is essential to slow cool all firings, including the glaze, from the high firing temperature to 800°C over a period of 5-8 minutes.

Make adjustments that are required, trim, characterize and glaze.

REMOVAL OF INVESTMENT

Carefully remove the larger bulk of investment with a tungsten carbide bur. Lightly blast away the remainder with Schottlander Blasting Compound at low pressure (15 - 23 psi).

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MATCHMAKER MC T-DENTINE VENEER FIRING CHART

	Low Temp°C	Drying Time	Temp. Rise°C	Vacuum	High Temp°C	Hold Time (no vacuum)	Slow Cool
Base Layer	550	9	60	Yes	970	1 min	Yes
1st Dentine/Enamel	550	9	60	Yes	960	1 min	Yes
2nd Dentine/Enamel	550	9	60	Yes	950	1 min	Yes
Glaze	550	9	60	No	960	1 min	Yes

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Matchmaker PRESS investment from Schottlander is a phosphate bonded investment to EN ISO 15912 for use with pressable ceramics. By varying the liquid concentration it may be used for inlays, onlays, crowns, veneers and for the press to metal technique. It may also be used in the production of refractory veneers. It has high strength to resist the forces exerted on the investment in the press technique.

PHYSICAL PROPERTIES

Mixing ratio	
Powder:liquid:	100g:22ml
Mixing under vacuum:	60 seconds
Working time:	5-7 minutes
Storage & working temperature:	17-22°C
Initial setting time:	9-11 minutes
Setting expansion:	>2.0% (100% undiluted liquid)

Concentration of the expansion liquid:

Concentration%	100g Ring		200g Ring	
	Liquid (ml)	Water (ml)	Liquid (ml)	Water (ml)
100	22	-	44	1
95	21	1	42	2
90	20	2	40	4
85	19	3	38	6
80	18	4	36	8
75	17	5	34	10
70	15	7	30	14
65	14	8	28	16
60	13	9	26	18
55	12	10	24	20
50	11	11	22	22
45	10	12	20	24
40	9	13	18	26

The recommended liquid concentrations are as follows:

	Liquid	Water
Molar Crowns	75%	25%
Pre-Molars	75 - 80%	20 - 25%
Front Crowns	75 - 80%	20 - 25%
Veneers	70%	30%
Inlays 1-layer & 2 layers	40 - 50%	50 - 60%
MOD-Inlays	70%	30%
Onlays	85 - 90%	10 - 15%

Note: The above concentrations are for guidance only and exact concentration should be varied in line with laboratory conditions. If in doubt about purity use distilled water. Duplicating materials may cause the investment to appear grey after purging in the burnout furnace. To remove this discolouration place the refractory dies in the porcelain furnace and run the veneer base layer cycle.

PREPARATION, MIXING & APPLICATION

Use the Matchmaker pressing ring and position the units so that they are at least 6mm (1/4 inch) from the wall of the ring. For single pellets use a 100g ring and for two pellets use a 200g ring.

Apply Matchmaker surface tension relief spray to the wax patterns.

DO NOT USE DEBUBBLIZER

Mix the liquid to the concentration recommended above and mix for 30 seconds by hand and then using a vacuum mixer mix for a further 60 seconds.

Brush a small amount of investment inside the wax pattern to help prevent bubbles. Then slowly pour the investment into the ring until it reaches the top of the Matchmaker pressing ring. Push the levelling ring into place until it displaces the investment and fits firmly on the ring. The working time is 5-7 minutes. Allow to bench set for 20 minutes and then remove from the Matchmaker pressing ring.

Note: The base of the mould must be absolutely flat so that the mould stands perfectly upright in the injection furnace. Carefully remove any flash with a plaster knife.

DO NOT USE A MODEL TRIMMER WITH WATER.

PRE-HEATING

30 minutes after investing introduce the ring together with the plunger into the furnace at 850°C. Hold time after 850°C reached once more is 40 minutes. If several rings are placed in the furnace, the heating time should be increased by 10 minutes for each additional ring. Do not put more rings into the furnace than it is capable of heating evenly.

TIPS & HINTS

When using a furnace which heats from the bottom ensure a clearance of at least 1cm between the ring and the plate of the base. If furnace heats unevenly, the rings should be rotated in the furnace.

If the ring has been left for more than 60 minutes a slow burn-out is essential. Place the ring in the furnace at between room temperature and 150°C and heat at 4°C per minute until a temperature of 290°C is reached. Hold for 1 hour at this temperature and then increase at 4°C per minute to 850°C and follow instructions above.

PRESSING

Press in accordance with the pressing instructions. Please refer to the Matchmaker PRESS manual.

COOLING THE MOULD

Leave mould to cool to room temperature and never plunge into cold water.

STORAGE

Store in a dry place between 17°C - 22°C. Temperatures outside these guidelines may influence the expansion characteristics. Keep liquids from freezing.

Warning: Plaster containing materials contaminate Matchmaker investment. Store such materials separately and use different bowls and spatulas. Always close liquid bottle after use and discard if there is 1mm of sediment at the bottom of the bottle.

HEALTH & SAFETY

Investment powder contains quartz and cristobalite. R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation. S2 Keep out of reach of children. S22 Do not breathe dust. S38 In case of insufficient ventilation, wear suitable respiratory equipment.

For further information request health and safety data sheet.

Vapours emitted may ignite if the furnace is opened during initial burnout. Do not open for 15 minutes after placing the investment mould.

WARNING

This product contains quartz/cristobalite and is classified as **Harmful**. Read health and safety section of these directions and request a copy of the Safety Data Sheet before use.

LOT NUMBERS

The lot number and date of manufacture are shown on the outside of all containers or on the printed sachets.

This product is specifically formulated for use in dentistry.