



RECOMMENDED PROCEDURES

POWDER WATER RATIO

Mix at 38 parts water to 100 parts powder.

SLURRY VOLUME YIELD

The slurry volume yield when mixing X-SIL compared to normal silica containing products is 7.5% less.

Therefore slightly more X-SIL may have to be used to completely fill the flasks.

TEMPERATURE

We recommend a slurry temperature of 17°C to 20°C (62°F – 68°F).

MIXING TIME

We recommend the total mixing/ investing cycle is completed by 8 minutes.

MANUAL MIXING

If the slurry is being mixed in air and then a vacuum is applied, the rise will be higher than normal powders. This may cause the slurry to overflow the bowl. If this happens, partly release the vacuum 2 or 3 times during the degassing, allowing the slurry to fall back. Once degassed the slurry will behave as normal when pouring the flasks. When a vacuum is applied to the flask this procedure will not have to be repeated. (Manual & vacuum mixing procedures on next page).

LENGTH OF TIME BEFORE STRIPPING FLASKS & PLACING IN THE FURNACE

We recommend at least 90 minutes, but 120 minutes is preferred.

BURN OUT CYCLE

We recommend a first hold at 220°C (428°F) for 4 to 5 hours.

Then a heating ramp rate of no more than 150°C (302°F) an hour to 720°C (1,328°F) and a hold at 720°C (1,328°F) for 4 hours before cooling to casting temperature.

CASTING TEMPERATURE

X-SIL is slightly more thermally conducting than traditional silica powders. This allows the caster to have a lower casting temperature to achieve full fill and a superior surface finish.

Due to this, the need for overpressure to achieve complete fill is also reduced, the overpressure can be reduced or removed to get complete casting and with a less turbulent fill will also improve the surface finish.



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INVESTING IN A SAFER WORKING ENVIRONMENT

INVESTING PROCEDURE

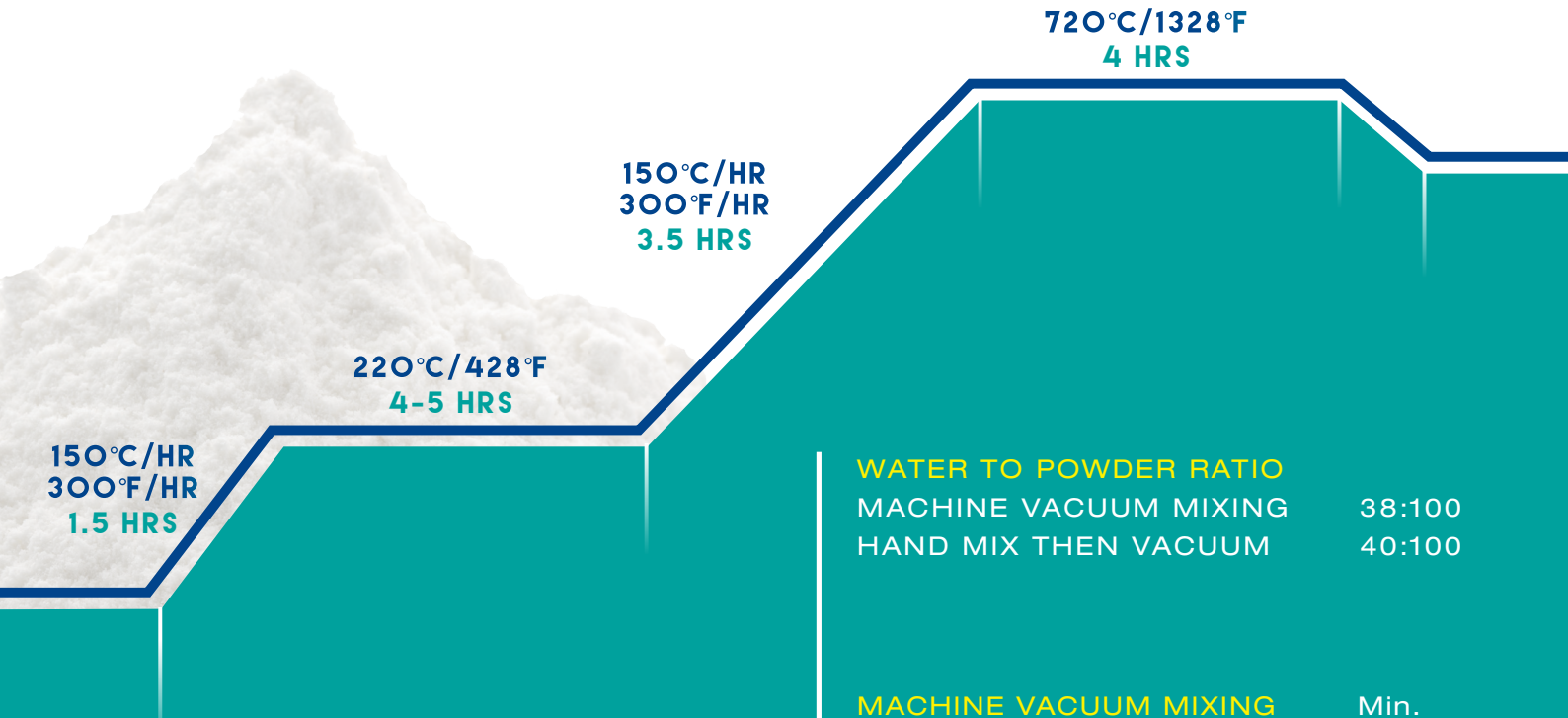
The investing procedure remains the same for vacuum mixing and conventional hand mixing using the same standard equipment currently used in any jewellery manufacturing operations.

WATER : POWDER RATIOS

The Water : Powder ratios remain the same at 38 parts water to 100 parts powder 38:100 or adapted to suit the customers current product range which may be slightly higher.

BURNOUT CYCLE

Burnout cycle remains the same as regular investment powder, meaning casters do not have to modify any burnout procedure. Can be used in all current burnout furnaces.



ALLOYS

Suitable to cast all non-precious and precious alloys including High Palladium White gold.

SURFACE FINISH

X-SIL has been engineered to at least match all cast surface finishes from our premium recipe investment powder range.

INVESTMENT POWDER STORAGE

To be stored under standard investment powder conditions <30°C/86°F

DISPOSAL

X-SIL is a non-hazardous waste product to be disposed of in line with local authority regulations.

WATER TO POWDER RATIO

MACHINE VACUUM MIXING	38:100
HAND MIX THEN VACUUM	40:100

MACHINE VACUUM MIXING

Min.

Weigh out water and powder	0
Add powder to water	0
Mix under vacuum	4
Pour flasks	2
Vacuum flasks	2
Total time taken	8

HAND MIX THEN VACUUM

Min.

Weigh out water and powder	0
Add powder to water	0
Mix by hand	1
Mix with machine	3
Vacuum mixer bowl	1
Pour flasks	1
Vacuum flasks	2
Total time taken	8



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