

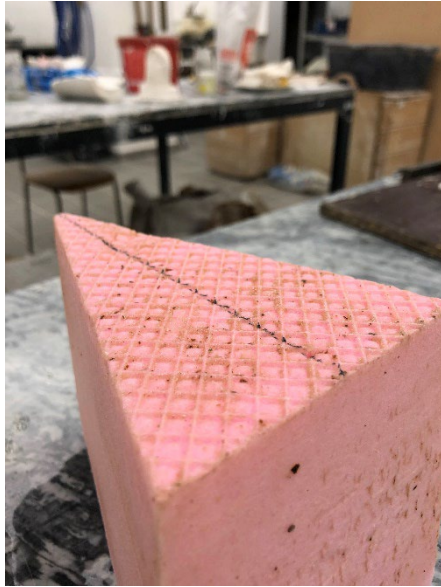
# The procedure for producing a sculpture made from Casting Glass

PRECIOSA TRADITIONAL CZECH GLASS™

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# Creating the model

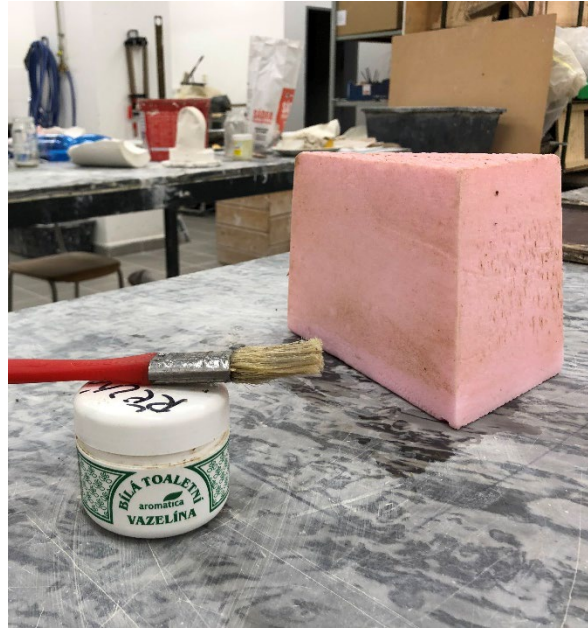
THE MODEL IS CREATED FROM HARDENED POLYSTYRENE AND IT HAS A GEOMETRICAL SHAPE WITH A SMOOTH SURFACE. ITS CONICAL SHAPE SIMPLIFIES ITS REMOVAL FROM THE MOULD.



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# Applying the separation layer

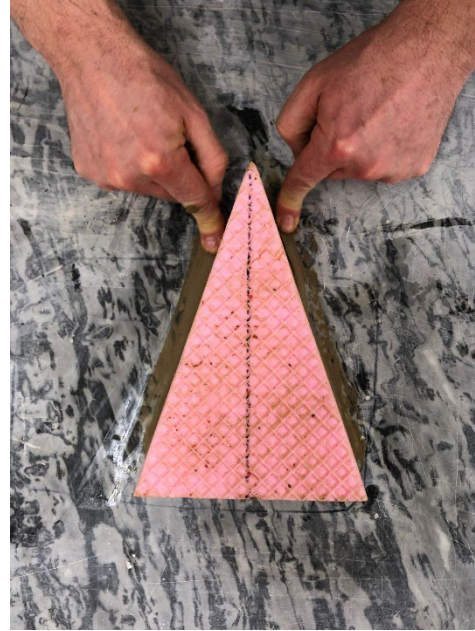
THE SEPARATION LAYER IS APPLIED TO THE ENTIRE MODEL SO THAT THE MODEL IS EASY TO REMOVE FROM THE MOULD AFTER HARDENING. A FATTY CREAM OR VASELINE IS USED FOR THIS PURPOSE.



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# Affixing the model

THE MODEL IS FIRMLY AFFIXED TO THE WORK BENCH SO THAT IT CANNOT COME UNSTUCK. SCULPTING CLAY OR PLASTICINE ARE USED FOR THIS PURPOSE.



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# Bench separation

A SEPARATION LAYER IS APPLIED TO THE WORK BENCH SO THAT THE MOULD DOES NOT ADHERE TO THE BENCH AND IS EASY TO REMOVE.



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# Building an enclosure

AN ENCLOSURE IS BUILT AROUND THE MODEL, INTO WHICH THE MOULDING MATERIAL IS THEN POURED.

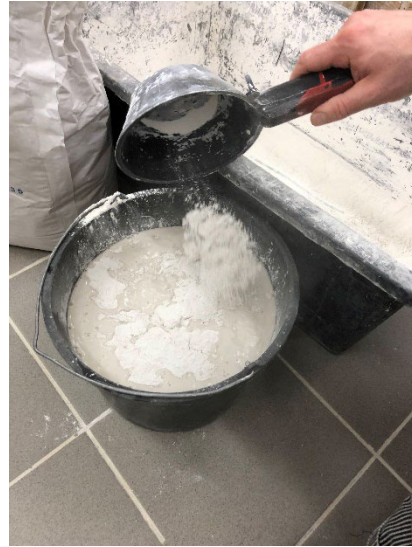


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# Preparing the moulding material

THE MIXTURE IS PREPARED BY COMBINING 1 PART PLASTER AND 2 PARTS SILICA SAND.

THE DRY MIX IS GRADUALLY ADDED TO WATER AND THOROUGHLY MIXED TOGETHER TO CREATE A CONSISTENCY THAT IS SIMILAR TO THICK CREAM.



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# Pouring the moulding material

THE MIXED MOULDING MATERIAL IS POURED ONTO THE PREPARED MODEL.



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# Hardening the mould

THE HARDENING PERIOD DEPENDS ON THE SIZE OF THE MODEL AND THE VOLUME OF THE POURED MIXTURE. THE MORE THE MIXTURE, THE LONGER THE HARDENING TIME.



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# Removing the enclosures

THE ENCLOSURES ARE REMOVED ONCE THE MOULD HAS HARDENED SUFFICIENTLY, USUALLY AFTER 24 HOURS.



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# Removing the model from the mould

THE POLYSTYRENE MODEL IS REMOVED FROM THE MOULD.



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# Cleaning the mould

THE MOULD IS THOROUGHLY CLEANED WITH WATER.

## Measuring the volume

THE SHAPE'S VOLUME IS MEASURED USING WATER. THE ACQUIRED VOLUME IN LITRES IS CONVERTED INTO THE WEIGHT OF THE GLASS THAT WILL BE USED:

**GLASS WITH A 15% LEAD CONTENT: 1 LITRE = 3 KG**

**GLASS WITH 48% LEAD CONTENT: 1 LITRE = 3,8 KG**



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# Drying the mould

THE MOULD MUST BE DRIED IN ORDER TO ELIMINATE ANY PHYSICALLY BONDED WATER.



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# Placing the mould in the kiln

THE MOULD IS PLACED HORIZONTALLY IN THE KILN AND COVERED WITH BRICKS THAT PREVENT IT FROM CRACKING AND THE GLASS POURING OUT INTO THE KILN.



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# Putting the glass in the mould



# Melting and cooling

THE MELTING AND COOLING CURVES ARE ADJUSTED ACCORDING  
TO THE TYPE OF GLASS AND THE SIZE OF THE OBJECT.  
VALID FOR 15% AND 48% PbO CONTENT.

PRECIOSA ORNELA – the universal curve for melting and cooling an object with dimensions of 19 x 13 x 14 cm (width x depth x height)			
1.	<b>120 °C</b>	4 hours	Slowly increasing the temperature due to the additional drying of the mould.
2.	<b>SOAK</b>	2 hours	Drying the mould
3.	<b>600 °C</b>	10 hours	
4.	<b>SOAK</b>	1 hour	
5.	<b>810 - 830 °C (15%Pb)</b> <b>780 – 810 °C (48%Pb)</b>	5 hours	The upper melting temperature that is subject to the lead content and the shape and size of the object.
6.	<b>SOAK</b>	3 hours	
7.	<b>460 °C (15%Pb)</b> <b>450 °C (48%Pb)</b>	0.02 hours	A quick and uncontrolled drop in temperature to the upper cooling temperature.
8.	<b>SOAK</b>	15 hours	Cooling at the upper cooling temperature.
9.	<b>380 °C</b>	30 hours	Cooling and a slow drop to the lower cooling temperature
10.	<b>22 °C</b>	50 hours	Cooling and a slow drop to room temperature
11.	<b>End</b>		



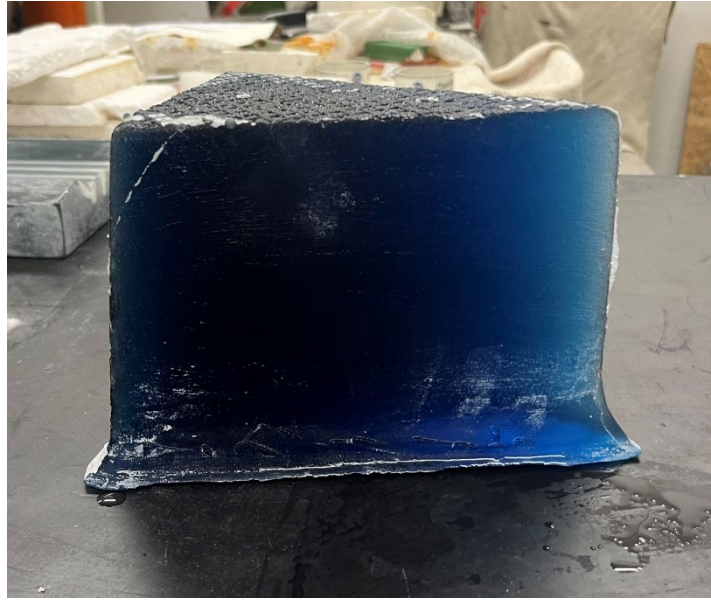
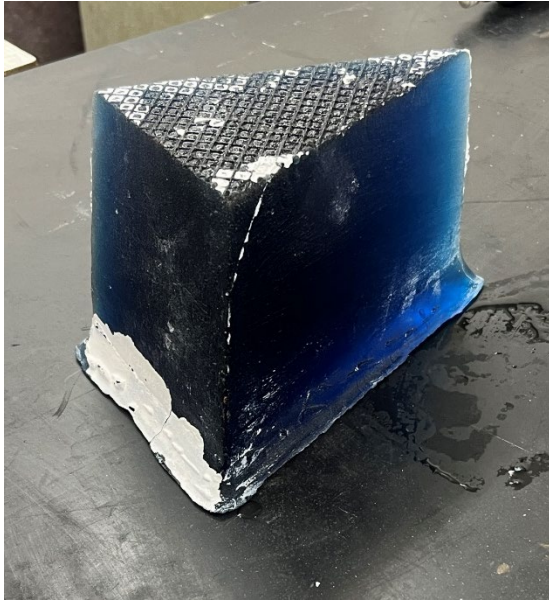
# Removing the glass from the mould

THE GLASS IS CAREFULLY REMOVED FROM THE MOULD AFTER HARDENING.



# Cutting and polishing the glass

THE GLASS IS CUT TO THE REQUIRED DIMENSIONS STARTING WITH A COARSER ABRASIVE MATERIAL AND GRADUALLY PROGRESSING TO A FINER ONE. POLISHING IS THE LAST SURFACE TREATMENT PHASE.

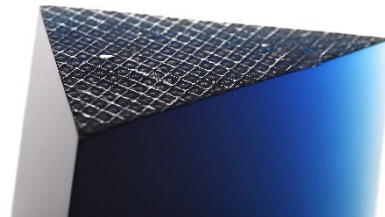


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WE HAVE KEPT THE EMBOSSED STRUCTURE FROM THE POLYSTYRENE ON THE MODEL IN ORDER TO SHOW HOW WELL THE GLASS COPIES SUCH DETAILS. LEAD GLASS IS ALSO ABLE TO FAITHFULLY IMPRINT EVEN FINE DETAILS AND TEXTURES AND ITS LOW VISCOSITY MEANS THAT IT FILLS NARROW SPACES WELL WHEN MELTED.

USED GLASS: 48 % PbO | COLOR NUMBER: 60350



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