

INSULVAC VACUUM FORMED SHAPES HD

INSULVAC CERAMIC SHAPES are produced by vacuum forming mixtures of refractory ceramic fibres with specially selected inorganic and organic binders. This manufacturing method permits considerable freedom to vary shape, thickness, density and hardness and when required grades can be finished using our in-house machining facilities.

All Insulvac shapes are produced in the Vacuum Formed Plant of Insulcon in Steenbergem (NL).

Insulvac ceramic shapes fill a wide range of requirements not met by other ceramic product forms. Often the vacuum forming technique provides the most economical answer to producing large quantities of parts in simple or complex configurations.



General characteristics

Insulvac ceramic shapes have these outstanding characteristics, such as:

- High temperature stability
- Low thermal conductivity
- Low heat storage
- Light weight
- Complex shape capability

Typical applications

- Burner blocks
- Peep holes
- Electric element supports
- Riser sleeves
- Tap out cones and tundishes
- Hot tops

INSULVAC CERAMIC SHAPES vacuum forming mix compositions utilize a small percentage of organic binder in addition to inorganic hardening agents. This gives the end products a uniform hardness and density as well as exceptional handling strength.

Various formulations are available to cover a wide range of application temperatures and handling characteristics. Insulvac 1500 <5% polycrystalline wool included. Insulvac 1600 <40% polycrystalline wool included. Post treatment is possible to impart increased hardness and remove organics prior to use. Prefiring can be carried out at either 800°C or 1200°C.

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Chemical analysis (Fibre wt. %)				
Quality	1260	1400	1500	1600
SiO ₂	50.0 – 60.0	52.0 – 56.0	40.0 – 45.0	32.0
Al ₂ O ₃	40.0 – 50.0	28.0 – 32.0	56.0 – 60.0	66.0
ZrO ₂		14.0 – 18.0		
Alkalis	< 0.25	< 0.25	< 0.25	< 0.25
Fe ₂ O ₃ + TiO ₂	< 0.5	< 0.20	< 0.20	< 0.20
Loss on ignition	< 10.0	< 10.0	< 10.0	< 9

Physical properties				
Type	1260	1400	1500	1600
Colour	White to tan	White to tan	White to tan	White to tan
Maximum Application temperature	1250°C	1400°C	1500°C	1600°C
Continuous use temperature	1150°C	1300°C	1400°C	1500°C
Product density	250 – 400 kg/m ³	350 – 450 kg/m ³	350 – 450 kg/m ³	350 – 450kg/m ³

Thermal conductivity (W/mK)				
Mean temperature				
600°C	0.11	-	-	-
800°C	0.15	0.21	0.20	0.22
1000°C	0.21	0.26	0.25	0.27
1200°C	-	0.33	0.31	0.34
1400°C	-	-	0.41	0.42

Permanent Linear shrinkage (approx. %)				
	3.0	3.5	3.0	3.2

Where appropriate Physical Properties and Thermal Conductivity Data measured according to ENV 1094 – 7:1994 on product in slab form @ density of 350 kg/m³

Insulvac ceramic vacuum formed shapes can also be supplied already prefired, which will reduce the shrinkage. Special qualities and densities are available on request.