



Two foundry vessel forms; construction and working charge are selected for the furnace and alloy. Illustrative product view.

Silicon Carbide Crucibles

Product reference: silicon-carbide-crucibles

Material: SiC-containing crucible construction

Product type: SiC-Containing Crucible

We produce silicon carbide-graphite crucibles for melting and holding aluminium, copper alloys and zinc alloys. Heat passes through the crucible wall to the charge, while the vessel contains the molten metal for treatment and casting. We match the crucible construction to the alloy, furnace heating method and operating cycle.

Our range includes standard curved-wall, tapered, tall cylindrical and spouted forms. Custom height, rim, pouring spout, openings and base profiles can be made to suit the installation and handling arrangement. For replacement work, we compare the existing model, dimensions and working capacity with the required furnace fit.

Tell us your alloy, working capacity and furnace type. An existing model, photo or sketch is enough to start; a formal drawing is optional.

Reference Material Properties - Carbon-bonded SiC-Graphite

Published material-selection reference for one commercial series; not specifications for supplied products.

Property	Reference value	Unit	Condition
Bulk specific gravity	1.80-2.10	Dimensionless	-
Apparent porosity	18-24	%	-
Modulus of rupture - room temperature	6.9-17.7	MPa	Room temperature
Modulus of rupture - hot	4.9-13.2	MPa	1200°C
Linear expansion	0.25-0.35	%	At 800°C
Thermal conductivity	≈23-61	W/(m·K)	-

Foundry Crucible Material Routes

Construction	Typical role	Material characteristics	Applicable construction
Carbon-bonded SiC / graphite	Non-ferrous melting and holding	Heat-conducting SiC/graphite body with oxidation-protective glaze	Alloy, flux and furnace-specific formulation
SiC-containing clay-graphite	Selected melting and holding duties	Graphite and SiC in a ceramic-bonded structure	Ceramic-bonded construction
Dense engineering SiC	Separate engineered vessels/components	Sintered or reaction-bonded ceramic structure	Dense ceramic vessels / components

Product Geometry & Configuration

Product parameter	Configuration	Selection basis
Vessel form	Curved-wall, tapered, tall cylindrical or spouted	Lift-out, bale-out or tilting operation
Top outside diameter (mm)	Outside diameter at the top rim	Controls furnace opening and handling-tool clearance
Base outside diameter (mm)	Outside diameter of the supporting base	Matches the support block and seating surface
Overall height (mm)	Distance from the base to the highest rim	Defines the vertical installation envelope
Brimful volume (L)	Internal volume filled to the rim	Geometric capacity, separate from the working fill volume
Working volume (L)	Usable volume at the operating metal level	Leaves headroom for charging, treatment and pouring
Working charge (kg)	Metal mass = molten-alloy density × working volume	Use kg/L and L; mass capacity is alloy-specific
Wall and base	Construction-specific wall/base thickness	Heat transfer, erosion allowance and mechanical support
Heating system	Fuel-fired, electric resistance or induction-compatible construction	Induction coupling depends on crucible electrical characteristics and furnace frequency