

DATA SHEET

K-278

Ceramic Core Material

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Description

Good for parts where good thermal stability is required; either for high temperature preheat applications in Equiax castings or in DS/SX applications where a silica-zircon composition is a better match to the casting process as opposed to an all silica composition.

Major Chemistry

Silica (SiO ₂), %	74
Zircon (ZrSiO ₄), %	24
Alumina (Al ₂ O ₃), %	1
Other, %	< 1

Trace Element Analysis

Iron (Fe), ppm	< 900
Bismuth (Bi), ppm	< 1
Lead (Pb), ppm	< 25
Silver (Ag), ppm	< 25
Antimony (Sb), ppm	< 25
Tin (Sn), ppm	< 25
Zinc (Zn), ppm	< 50

Physical Properties

Modulus of rupture (4-point), psi	1800
Length shrinkage (mold-to-fired), %	1.2
Chord shrinkage (mold-to-fired), %	1.3
Thermal expansion coefficient (25 - 1000°C), ppm/°C	2.6
Bulk density, g/cc	1.8
Apparent density, g/cc	2.6
Porosity, %	29
Absorption, %	16
Cristobalite content (after fire), %	10
Cristobalite content (after 30 min. at 1530°C), %	37
Leachability (30% boiling KOH, 30 g sample, 30 min.), %	50

Core – Metal Reaction Compatibility

Most nickel based, DS and SX alloys.

Please note that all values quoted are based on test pieces and may vary according to component design. These values are not guaranteed in anyway whatsoever and should only be treated as indicative and for guidance only. Aug.12.2015