

DATA SHEET

P-36

Ceramic Core Material

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Description

High silica core type with an intermediate particle size distribution and excellent high temperature stability. Used for DS and SX configurations where there are blind passages and core leachability is a concern. Used with alloys that tend to recrystallize under stress or with jobs that are prone to hot tearing.

Major Chemistry

Silica (SiO ₂), %	93
Zircon (ZrSiO ₄), %	3
Alumina (Al ₂ O ₃), %	3
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	1550
Length shrinkage (mold-to-fired), %	1.3
Chord shrinkage (mold-to-fired), %	1.4
Thermal expansion coefficient (25 - 1000°C), ppm/°C	2.0
Bulk density, g/cc	1.6
Apparent density, g/cc	2.3
Porosity, %	32
Absorption, %	21
Cristobalite content (after fire), %	11
Cristobalite content (after 30 min. at 1530°C), %	61
Leachability (30% boiling KOH, 30 g sample, 15 min.), %	100

Core – Metal Reaction Compatibility

Most DS and SX alloys.