



Material Data Sheet

With over 25 years of experience in the manufacture of ceramic cores, DAI Ceramics, Inc. is at the cutting edge of ceramic core technology.

DAI has significant experience in the manufacture of complex geometry cores used in the casting of equiax and high performance DS and SC gas turbine engine components for both aerospace and industrial applications.

As a leading provider of ceramic cores, DAI maintains an extensive quality control and R&D lab to ensure it's materials meet specification and to assist with development of tomorrow's high performance core materials.

The information and data presented herein are typical or average values and are not a guarantee of maximum or minimum values. Applications specifically suggested for material described herein are made solely for the purpose of illustration to enable the reader to make his own evaluation and are not intended as warranties, either express or implied, of fitness for these or other purposes. There is no representation that the recipient of this literature will receive updated editions as they become available.

C6 Core Material

Application:

High silica core with good high temperature stability ideal for medium to large aero and IGT equiax castings. With the high silica content the core is easily leached out by conventional means.

Material Composition (%)

Silica (SiO ₂)	97.6
Zircon (ZrSiO ₄)	-
Alumina (Al ₂ O ₃)	2.4

Trace Element Analysis

Element	Typical ppm
Lead (Pb)	< 10
Bismuth (Bi)	< 0.5
Silver (Ag)	< 10
Antimony (Sb)	< 5
Zinc (Zn)	< 5
Tin (Sn)	< 15
Iron (Fe)	200

% Cristobalite

As fired	18
After 60 min at 2800°F	81

% Process Shrinkage (Mold to fired)

General	1.2
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Modulus of Rupture (MOR)

Ceramic only @ RT	1400 psi
Impregnated ceramic @ RT	4000 psi

% Thermal Expansion

at 2800F	0.300
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Physical Properties

Bulk density (g/cc)	1.58
Apparent density (g/cc)	2.25
Porosity (vol %)	29.63

Creep/Sag Test

After 60 min at 2800°F (in.)	0.018
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DAI CERAMICS, INC.
Innovative Ceramic Solutions

A **CeramTec** Company



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