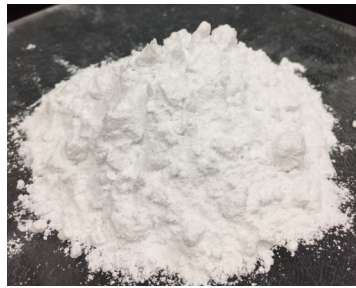


Ranco-Sil™ Fused Silica



RANCO-SIL fused silica is electrically fused, high purity silica. Fused silica is produced from a naturally occurring mineral and is therefore subject to variability. It has a low thermal conductivity and excellent thermal shock resistance. These properties, along with its low density, make it an excellent refractory for use in a ceramic shell mold. RANCO-SIL fused silica is available in both flour and granular forms.

RANCO-SIL fused silica can be used throughout the ceramic shell. When used in the primary slurry, it may be necessary to blend with zircon depending on the alloy. Shells constructed with fused silica hold their dimensions better and are not prone to hot deformation or bulging. Shell removal from the casting, or knockout, is also easier with fused silica refractories.

Typical Material Properties*

	Grains	Flours
% Silica (SiO ₂)	≥ 99.7%	≥ 99.7%
Alumina (Al ₂ O ₃)	≤ 1200 ppm	≤ 4000 ppm**
Ferric Oxide (Fe ₂ O ₃)	≤ 350 ppm	≤ 350 ppm
Sodium Oxide (Na ₂ O)	≤ 50 ppm	≤ 50 ppm
Potassium Oxide (K ₂ O)	≤ 75 ppm	≤ 75 ppm
Calcium Oxide (CaO)	≤ 100 ppm	≤ 100 ppm
Magnesium Oxide (MgO)	≤ 50 ppm	≤ 100 ppm

*These results are based on the testing methods, frequency and procedures of Ransom & Randolph or its approved suppliers. The levels referenced herein are only for general guidance and do not constitute a firm specification.

**The finer the powders, the higher the alumina levels, due to the use of high density alumina grinding media.

PRODUCT DATA SHEET



RANSOM & RANDOLPH
 Maumee, OH 43537 USA
 Toll Free: 800.800.7496
 Phone: 419.865.9497
 Fax: 419.865.9997
www.ransom-randolph.com

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Sieve Analysis (% Retained)

USS Sieve Grade	10 (2.0 mm)	20 (0.85 mm)	30 (0.6 mm)	40 (.425 mm)	50 (0.3 mm)	60 (0.25 mm)	80 (180 µm)	100 (150 µm)	140 (106 µm)	200 (75 µm)	325 (45 µm)	PAN***	Magnetics Max ppm
C -10+30	0-1	80-95	2-16	-	0-4	-	-	-	-	-	-	0-2	25
B -30+50	-	0-0.5	25-35	34-48	16-32	-	0-8	-	-	-	-	0-0.5	25
A -50+100	-	-	-	0-0.5	3-12	-	-	72-87	5-16	0-3	-	0-1.5	25
#2 -120	-	-	0	-	0-0.5	-	-	4-12	7-13	10-15	14-20	45-55	75
#140 -140	-	-	0	-	-	0-1	0-4	0-6	5-10	5-15	17-26	52-59	75
#4 -200	-	-	0	-	-	-	0-0.5	0-0.5	0-4	3-9	13-20	69-81	75
#270 -270	-	-	0	-	-	-	0-0.5	0-0.5	0-2	1-5	8-17	80-86	75
#1 -325	-	-	0	-	-	-	-	Tr	Tr	Tr	0-2	98-100	75

***PAN designates the percentage of material passing the last reported screen for each size. Imerys has determined test method and provided analysis as noted herein.

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this product. Information contained herein is believed to be true and accurate but all statements or suggestions are made without warranty, expressed or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. Compliance with all applicable federal, state, and local regulations remains the responsibility of the user. All potential liability related to the sale and use of this product is limited to the cost of the particular goods sold in their respective transactions.

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