

# TECO-SIL®

## FUSED SILICA

TECO-SIL is electrically fused high purity silica produced at Imerys Greeneville, Tennessee fusion and processing facility.

### APPLICATION

TECO-SIL fused silica products are specially engineered grains and powders designed for use in foundry, refractory, investment casting and other special applications.

### SPECIAL FEATURES

Extremely low coefficient of thermal expansion, consistent chemistry and carefully controlled particle size distribution.

CHEMICAL ANALYSIS	TECO-SIL GRAINS		TECO-SIL POWDER	
	SPECIFICATIONS		SPECIFICATIONS	
	MIN	MAX	MIN	MAX
SiO <sub>2</sub> (%)	99.7	-	99.7	-
		PPM		PPM
Al <sub>2</sub> O <sub>3</sub>	-	1000	-	3000*
Fe <sub>2</sub> O <sub>3</sub>	-	300	-	350
CaO	-	50	-	50
MgO	-	50	-	50
Na <sub>2</sub> O	-	50	-	50
K <sub>2</sub> O	-	50	-	50

This information is based on historical sampling results of Imerys products. However, this information does not constitute any representation, condition or warranty, nor is it indicative of any individual lot or unit of product. Absent a valid written agreement to the contrary, this information may not be relied upon by any customer or user of Imerys products for any purpose, and all sales are made on the condition that Imerys will not be held liable for any damages resulting from the use of its products.



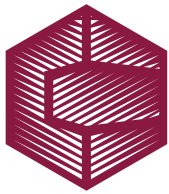
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IMERYS REFRACTORY MINERALS  
100 Mansell Court East - Suite 615 - Roswell, GA 30076



Tel: (770) 225-7923  
E.mail: refractory.minerals@imerys.com

[www.imerys-refractoryminerals.com](http://www.imerys-refractoryminerals.com)



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### GRAIN SIZE SPECIFICATIONS (% RETAINED)

USS SIEVE GRADE	4 4.75 mm	6 3.35 mm	8 2.36 mm	10 2.0 mm	20 0.85 mm	30 0.6 mm	40 0.425 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*	Magnetic Max. PPM	Typical Avg. Particle Size
-4+10	0 - 20	20 - 48		29 - 59	2 - 20										0 - 2	10	
-6+50		0 - 1	0 - 15	5 - 25	25 - 70	10 - 40	10 - 30								5 - 15	25	
-10+20				0 - 1	80 - 95	2 - 16		0 - 4							0 - 2	25	
-20+50					0 - 1	25 - 40	32 - 45	15 - 30		0 - 11					0 - 1	25	
-30+50					0 - 0.5	25 - 35	34 - 48	16 - 32		0 - 8					0 - 0.5	25	
-50+100							0 - 0.5	3 - 12			72 - 87	5 - 16	0 - 3		0 - 1.5	25	
150 I									0 - 2		0 - 12	16 - 40	20 - 40	16 - 30	4 - 20	100	
-120F						0		0 - 0.5			4 - 12	7 - 13	10 - 15	14 - 20	45 - 55	75	43 - 55
-140F						0			0 - 1	0 - 4	0 - 6	5 - 10	5 - 15	17 - 26	52 - 59	75	36 - 48
-170F						0			0 - 1	0 - 3	0 - 7	0 - 10	5 - 15	12 - 20	60 - 70	75	30 - 42
-200F						0				0 - 0.5	0 - 0.5	0 - 4	3 - 9	13 - 20	69 - 81	75	23 - 30
-270F						0				0 - 0.5	0 - 0.5	0 - 2	1 - 5	8 - 17	80 - 86	75	12 - 22
-325F						0					TR	TR	TR	0 - 2	98 - 100	75	7.6 - 14

\*PAN designates the percentage of material passing the last reported screen for each size.

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#### FUSED SILICA FOR INVESTMENT CASTING / REFRACTORY APPLICATIONS

Imerys produces several grades of coarse fused silica grains (stuccos) and powders (flours) for the investment casting and refractory industries. Due to fused silica's low thermal conductivity and excellent thermal shock resistance, it is widely used in both industries.

TECO makes several standard grain size distributions for both applications. These are produced by the blending of several tightly controlled fractions. TECO's blending system, along with our specialty grinding system, is what makes TECO capable of meeting our customers' need every time. Dust removal is also given high priority for fluid bed/rainfall sander applications.

TECO is capable of producing powders with several different particle size distributions, by utilizing several ball mills on site. This allows the flexibility to produce material with a broad range of particle size distributions. Particle sizing is controlled using the most up-to-date particle size analyzers.

Imerys/TECO's quality control/assurance laboratory has all of the state-of-the-art equipment necessary for testing fused silica grains and powders. Routinely, the laboratory is capable of performing the following tests: Test sieve analysis, pH, magnetics, atomic absorption spectroscopy, Microtrac p.s.d, B.E.T. surface area and many others.

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