



**Technical Data Sheet:**

**R-E-D Fume Concrete – 102 DM**



**R-E-D Fume 102 DM** is a densified amorphous light gray silicon dioxide powder with a constant pH obtained by filtering the dust extracted from the production of silicon metal in an electric arc furnace. **R-E-D 102 DM** is used to make high-performance concrete and is one of the more important advanced materials necessary in the effort to rebuild our nation's infrastructure. **R-E-D 102 DM** delivers increased toughness and resistance to abrasion and corrosion, improving sustainability and life-cycle cost efficiencies.

**Applications:** Highway bridges, parking decks, marine structures and bridge overlays.

**Packaging:** Bulk super-sacks, 25lb. Bags, other packaging options are available upon request.

**Storage:** Dry storage. Avoid contact with moisture.

**Safety:** Product totally amorphous. Safety data sheet available upon request.

**Quality Control:** Complies with ISO 9001:2008 norm., ASTM C1240 and AASHTO M 307.

**Environmental:** Complies with ISO 14001:2000 norm.



**Physical and Chemical Characteristics**

ANALYSIS	Limits		
	TYPICAL	MIN	MAX
SiO <sub>2</sub> (%)	94.0	92.5	98.1
Free C (%)	1.50	0.60	4.30
Total CaO (%)	0.42	0.19	1.60
SO <sub>3</sub> (%)	0.10	<0.01 <sup>2</sup>	0.70
Na <sub>2</sub> O (%)	0.10	<0.01 <sup>2</sup>	0.50
K <sub>2</sub> O (%)	0.38	0.25	1.10
H <sub>2</sub> O (%)	0.30	0.10	1.20
Al <sub>2</sub> O <sub>3</sub> (%)	0.11	<0.01 <sup>2</sup>	0.50
Fe <sub>2</sub> O <sub>3</sub> (%)	0.12	<0.01 <sup>2</sup>	0.50
MgO (%)	0.29	0.05	0.60
pH	7.80	6.75	8.80
Loss on Ignition (950° C During 1 hour) (%)	1.70	1.10	4.80
Specific Surface (BET) (M <sup>2</sup> /g)	20.0	18.0	22.0
Bulk Density (lb/ft <sup>3</sup> )	40	30	50
>45 μ (%)	2.20	0.50	8.00
Brightness L <sup>1</sup>	47	45	50

<sup>1</sup> % by weight of dry mass

<sup>2</sup> Lower limit detection

**Contact R-E-D:**

**Rodney Chiodo**  
 Director of Operations / CEO  
[rjchiodo@redindustrialproducts.com](mailto:rjchiodo@redindustrialproducts.com)  
 (814) 673-1552

**Lacey Ryan**  
 Customer Service / Inside Sales Manager  
[lfrantz@redindustrialproducts.com](mailto:lfrantz@redindustrialproducts.com)  
 (724) 815-3363

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