

# Ipsen Ceramics

Industrial Ceramic Refractory Products



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# About Us

- Located in Pecatonica, IL, we have over 66,000 ft<sup>2</sup> of space
- We have two product lines
  - » Ceramic Refractory
  - » Custom Toll Firing
- Staffing
  - » 4 Office Personnel (Operations Manager, Sales, Engineer, Customer Service)
  - » 2 Working Supervisors
  - » 8 Shop Employees with over 40 years experience in manufacturing of ceramics



# Refractory Products

- Metal, Glass Melting and Molten Transfer
  - Crucibles
  - Ladles
  - Tubs
  - Tundishes



# Refractory Products

- Kiln Furniture
  - Saggars
  - Plates
  - Setters
  - Posts
  - Piers
  - Girders



# Refractory Products

- Heat Treating Process Refractories
  - Hearths
  - Burner Blocks
  - Muffle Assemblies
  - Skid Rails



# Refractory Materials

<b>Typical Physical, Thermal, and Chemical Properties Matrix</b>			
<b>Material</b>	<b>I-COR 909 (Alumina)</b>	<b>I-COR 912 (Alumina)</b>	<b>I-SIL 512 (Fused Silica)</b>
<b>Physical Properties</b>			
<b>Standard Applications</b>	Crucibles	Furnace Components Kiln Furniture	Furnace Components Kiln Furniture
<b>Specific Gravity</b>	2.74 g/cm <sup>3</sup>	2.78 g/cm <sup>3</sup>	1.90 g/cm <sup>3</sup>
<b>Bulk Density</b>	170 lbs./ft <sup>3</sup>	173 lbs./ft <sup>3</sup>	118 lbs./ft <sup>3</sup>
<b>Apparent Porosity</b>	18%	16%	20%
<b>Strength (MOR) Room Temp</b>	12.41 MPa 1800 PSI	9.37MPa 1360 PSI	6.20MPa 900 PSI
<b>Color</b>	White	White	Light Beige
<b>Thermal Properties</b>			
<b>Maximum Temperature</b>	3200° F	3200° F	2400° F
<b>Thermal Expansion Coefficient</b>	3.40x10 <sup>-6</sup> /°F	6.12x10 <sup>-6</sup> /°F	1.37x10 <sup>-6</sup> /°F
<b>Thermal Conductivity</b>	N/A	28 BTU/ft <sup>2</sup> *hr*°F/in	N/A
<b>Thermal Shock Resistance</b>	Good	Good	Excellent
<b>Chemical Properties (wt %)</b>			
<b>Al<sub>2</sub>O<sub>3</sub></b>	87.5	86.5	12.3
<b>SiO<sub>2</sub></b>	12	13	86.7
<b>CaO</b>	Trace	Trace	0.04
<b>Na<sub>2</sub>O</b>	0.3	0.3	0.49
<b>Fe<sub>2</sub>O<sub>3</sub></b>	0.1	0.1	0.31
<b>TiO<sub>2</sub></b>	0.1	0.1	-
<b>MgO</b>	Trace	Trace	0.01

# Custom Toll Firing

- High Temperature Firing Capabilities (Up to 3200 ° F)
- No Minimum or Maximum Order Requirements
- Roller Hearth, Tunnel Kiln, and Periodic Kilns Available
- Customizable to your firing cycle
- Adjustable soak times
- Surface and Density testing capabilities available

