



# SUPER INSULATING BRICK

Effective: November 2015

			ISOLMOS 450	ISOLMOS 550	AW 500	AB-45	AB-50	AB-55	AB-60	AB-70
<b>Classification</b>	ISO 2245 : 2006		<b>85-L</b>	<b>85-L</b>	<b>85-L</b>	<b>90-L</b>	<b>90-L</b>	<b>90-L</b>	<b>100-L</b>	<b>100-L</b>
<b>Density</b>	ISO 5016 : 1995	Kg/m <sup>3</sup>	<b>425</b>	<b>500</b>	<b>500</b>	<b>450</b>	<b>500</b>	<b>550</b>	<b>600</b>	<b>700</b>
<b>Max. service temperature</b>		°C	<b>900</b>	<b>900</b>	<b>900</b>	<b>950</b>	<b>950</b>	<b>1000</b>	<b>1050</b>	<b>1050</b>
<b>Cold crushing strength</b>	ISO 8895 : 2006	MPa	<b>1.3</b>	<b>2.5</b>	<b>1.8</b>	<b>1.8</b>	<b>2.5</b>	<b>3.5</b>	<b>4.5</b>	<b>6.0</b>
<b>Linear Reheat Change</b> 12h soak @ Temperature (°C)	ISO 2477 : 2005	%	<b>&gt; -1.0</b> 850	<b>&gt; -1.0</b> 850	<b>&gt; -1.0</b> 850	<b>-0.5</b> 900	<b>-0.5</b> 900	<b>-0.5</b> 950	<b>-0.5</b> 1000	<b>-0.5</b> 1000
<b>Thermal Conductivity</b> Mean Temperature	ASTM C 182-88 : 2009	W/m°K								
200°C			<b>0.11</b>	<b>0.13</b>	<b>0.13</b>	<b>0.14</b>	<b>0.16</b>	<b>0.18</b>	<b>0.18</b>	<b>0.20</b>
400°C			<b>0.13</b>	<b>0.15</b>	<b>0.15</b>	<b>0.15</b>	<b>0.17</b>	<b>0.20</b>	<b>0.20</b>	<b>0.23</b>
600°C			<b>0.15</b>	<b>0.17</b>	<b>0.18</b>	<b>0.17</b>	<b>0.18</b>	<b>0.22</b>	<b>0.23</b>	<b>0.25</b>
800°C							<b>0.25</b>	<b>0.25</b>	<b>0.25</b>	<b>0.28</b>
<b>Chemical Analysis</b>	XRF	%								
SiO <sub>2</sub>			<b>65.0</b>	<b>65.0</b>	<b>67.5</b>	<b>64.5</b>	<b>64.5</b>	<b>64.0</b>	<b>63.4</b>	<b>62.7</b>
Al <sub>2</sub> O <sub>3</sub>			<b>15.0</b>	<b>15.0</b>	<b>22.5</b>	<b>17.3</b>	<b>17.5</b>	<b>17.6</b>	<b>18.0</b>	<b>18.5</b>
TiO <sub>2</sub>			<b>0.5</b>	<b>0.5</b>	<b>1.1</b>	<b>0.6</b>	<b>0.6</b>	<b>0.6</b>	<b>0.6</b>	<b>0.6</b>
Fe <sub>2</sub> O <sub>3</sub>			<b>4.0</b>	<b>4.0</b>	<b>2.0</b>	<b>3.3</b>	<b>3.1</b>	<b>3.1</b>	<b>3.1</b>	<b>3.1</b>
CaO			<b>7.0</b>	<b>7.0</b>	<b>0.9</b>	<b>5.5</b>	<b>5.9</b>	<b>6.3</b>	<b>7.0</b>	<b>7.2</b>
MgO			<b>1.3</b>	<b>1.3</b>	<b>0.8</b>	<b>1.6</b>	<b>1.6</b>	<b>1.6</b>	<b>1.6</b>	<b>1.6</b>
K <sub>2</sub> O			<b>5.0</b>	<b>5.0</b>	<b>2.9</b>	<b>3.8</b>	<b>3.6</b>	<b>3.6</b>	<b>3.6</b>	<b>3.6</b>
Na <sub>2</sub> O			<b>1.1</b>	<b>1.1</b>	<b>1.4</b>	<b>1.9</b>	<b>1.7</b>	<b>1.7</b>	<b>1.2</b>	<b>1.2</b>
P <sub>2</sub> O <sub>5</sub>			<b>0.5</b>	<b>0.5</b>	<b>0.9</b>	<b>tr</b>	<b>tr</b>	<b>tr</b>	<b>tr</b>	<b>tr</b>
<b>Thermal Expansion (max.)</b>	EN 821-1 : 1995	%	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.5</b>	<b>0.5</b>	<b>0.5</b>
<b>Refractoriness</b>	ISO 528 : 1983	°C	<b>1140</b>	<b>1140</b>	<b>1400</b>	<b>1200</b>	<b>1200</b>	<b>1200</b>	<b>1200</b>	<b>1200</b>
<b>Refractoriness Under Load, T<sub>05</sub></b> Load: 0.05 MPa	ISO 1893 : 2008	°C	<b>810</b>	<b>810</b>	<b>860</b>	<b>890</b>	<b>890</b>	<b>960</b>	<b>960</b>	<b>990</b>
<b>Total Porosity</b>	ISO 5017 : 2013	%	<b>82</b>	<b>80</b>	<b>80</b>	<b>82</b>	<b>80</b>	<b>78</b>	<b>76</b>	<b>72</b>
<b>Dimensional Tolerances</b>										
<b>Machined standard squares</b>		mm	<b>± 1.0</b>	<b>± 1.0</b>	<b>± 1.0</b>	<b>± 1.0</b>	<b>± 1.0</b>	<b>± 1.0</b>	<b>± 1.0</b>	<b>± 1.0</b>
<b>Trimmed standard squares</b>										
Length		mm	<b>± 2.0</b>	<b>± 2.0</b>	<b>± 2.0</b>	<b>± 2.0</b>	<b>± 2.0</b>	<b>± 2.0</b>	<b>± 2.0</b>	<b>± 2.0</b>
Width		mm	<b>± 2.0</b>	<b>± 2.0</b>	<b>± 2.0</b>	<b>± 2.0</b>	<b>± 2.0</b>	<b>± 2.0</b>	<b>± 2.0</b>	<b>± 2.0</b>
Thickness		mm	<b>± 1.5</b>	<b>± 1.5</b>	<b>± 1.5</b>	<b>± 1.5</b>	<b>± 1.5</b>	<b>± 1.5</b>	<b>± 1.5</b>	<b>± 1.5</b>

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