

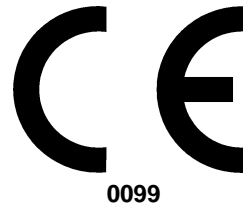
## Cement Data Sheet

Manufactured in: - Lansdown, Killaskillen, Kinnegad, Co. Westmeath, Ireland.

Date: 15/03/2024

### Portland Cement

I.S EN 197-1:2011	<b>CEM II/B-LL 42,5 R (White)</b>	01/04/2002
	Certificate of Conformity No: 0099 - CPR - 0287	
CE	<b>CEM II/B-LL 42,5 R (White)</b>	01/04/2002



### Declared Composition (%)

<u>Constituents</u>	<u>Calcium Sulfate</u>
Portland Cement Clinker (K).....	Gypsum.....
Blastfurnace slag (S).....	Other source of Calcium Sulfate.....
Silica fume (D).....	
Natural pozzolana (P).....	
Natural calcined pozzolana (Q).....	
Siliceous fly ash (V).....	<u>Additives</u>
Calcareous fly ash (W).....	Grinding Aid.....
Burnt Shale (T).....	
Limestone (L).....	

**65 - 79**      **3.0 - 5.0**  
**-**              **-**  
**-**  
**-**  
**-**  
**-**              **< 0.1**  
**-**  
**21 - 35**

### Compressive Strengths (MPa)

<u>Time</u>	<u>Test Method</u>	<u>Mean Values</u>	<u>Range of Values</u>		
2 Day	IS EN 196 - 1	<b>27.6</b>	<b>24.0</b>	-	<b>30.0</b>
7 Day	IS EN 196 - 1	<b>38.2</b>	<b>34.0</b>	-	<b>40.0</b>
28 Day	IS EN 196 - 1	<b>47.4</b>	<b>43.5</b>	-	<b>51.5</b>

### Physical Properties

<u>Property</u>	<u>Test Method</u>	<u>Mean Values</u>	<u>Range of Values</u>		
Specific density (Kg/M <sup>3</sup> )	IS EN 196 - 6	<b>3110</b>	<b>3050</b>	-	<b>3200</b>
Specific surface (M <sup>2</sup> /Kg)	IS EN 196 - 6	<b>499</b>	<b>460</b>	-	<b>460</b>
Initial setting time (min)	IS EN 196 - 3	<b>169</b>	<b>90</b>	-	<b>200</b>
Soundness (mm)	IS EN 196 - 3	<b>0.5</b>	<b>0.0</b>	-	<b>3.0</b>
Whitness L*		<b>90.7</b>	<b>89.0</b>	-	<b>93.0</b>

### Chemical Properties

<u>Property</u>	<u>Test Method</u>	<u>Mean</u>	<u>Range</u>	<u>Property</u>	<u>Test Method</u>	<u>Mean</u>	<u>Range</u>
LOI (%)	IS EN 196 - 2	<b>11.8</b>	<b>13.0 - 17.0</b>	SO <sub>3</sub> (%)	IS EN 196 - 2	<b>3.0</b>	<b>2.0 - 3.5</b>
IR (%)	IS EN 196 - 2	<b>0.8</b>	<b>0.0 - 3.0</b>	K <sub>2</sub> O (%)	IS EN 196 - 2	<b>0.56</b>	<b>0.10 - 0.90</b>
SiO <sub>2</sub> (%)	IS EN 196 - 2	<b>16.3</b>	<b>15.0 - 18.0</b>	Na <sub>2</sub> O (%)	IS EN 196 - 2	<b>0.01</b>	<b>0.00 - 0.25</b>
Al <sub>2</sub> O <sub>3</sub> (%)	IS EN 196 - 2	<b>3.5</b>	<b>3.0 - 4.0</b>	Cl (%)	IS EN 196 - 2	<b>0.01</b>	<b>0.00 - 0.08</b>
Fe <sub>2</sub> O <sub>3</sub> (%)	IS EN 196 - 2	<b>0.2</b>	<b>0.0 - 1.5</b>	FCaO (%)	ISO 29581 - 2	<b>1.3</b>	<b>0.5 - 3.0</b>
CaO (%)	IS EN 196 - 2	<b>70.0</b>	<b>67.5 - 72.5</b>	Na <sub>2</sub> O <sub>eqv</sub> (%)	IS EN 196 - 2	<b>0.38</b>	<b>0.00 - 0.75</b>
MgO (%)	IS EN 196 - 2	<b>0.4</b>	<b>0.0 - 1.0</b>	Cr(VI) (ppm)	IS EN 196 - 10	<b>0.0</b>	<b>0.0 - 2.0</b>