



## Cement Data Sheet

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

Date: 20/02/2020

### Portland Cement

I.S EN 197-1:2011	<b>CEM I 42,5 R</b>	18/11/2002
	Certificate of Conformity No: 0050 - CPR - 0012	
CE	<b>CEM I 42,5 R</b>	18/11/2002



### Declared Composition (%)

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

**95 - 100**      **3.0 - 6.0**  
 -      -  
 -      -  
 -      -  
 -      **< 0.1**  
 -      **< 0.3**  
 -      -  
**0 - 5**

### 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>29.9</b>	<b>26.5 - 32.5</b>
7 Day	IS EN 196 - 1	<b>48.0</b>	<b>45.0 - 50.0</b>
28 Day	IS EN 196 - 1	<b>59.7</b>	<b>56.0 - 62.0</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>3125</b>	<b>3050 - 3200</b>
Bulk density (Kg/M <sup>3</sup> )	-	-	<b>1.10 - 1.40</b>
Specific surface (M <sup>2</sup> /Kg)	IS EN 196 - 6	<b>378</b>	<b>325 - 425</b>
Initial setting time (min)	IS EN 196 - 3	<b>119</b>	<b>90 - 190</b>
Soundness (mm)	IS EN 196 - 3	<b>0.6</b>	<b>0.0 - 4.0</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>3.2</b>	<b>1.5 - 4.0</b>	SO <sub>3</sub> (%)	IS EN 196 - 2	<b>2.4</b>	<b>2.0 - 3.0</b>
IR (%)	IS EN 196 - 2	<b>0.2</b>	<b>0.1 - 2.0</b>	K <sub>2</sub> O (%)	IS EN 196 - 2	<b>0.53</b>	<b>0.40 - 0.80</b>
SiO <sub>2</sub> (%)	IS EN 196 - 2	<b>19.6</b>	<b>17.6 - 21.0</b>	Na <sub>2</sub> O (%)	IS EN 196 - 2	<b>0.25</b>	<b>0.15 - 0.35</b>
Al <sub>2</sub> O <sub>3</sub> (%)	IS EN 196 - 2	<b>5.0</b>	<b>4.6 - 5.6</b>	Cl (%)	IS EN 196 - 2	<b>0.07</b>	<b>0.01 - 0.09</b>
Fe <sub>2</sub> O <sub>3</sub> (%)	IS EN 196 - 2	<b>2.5</b>	<b>2.0 - 3.5</b>	FCaO (%)	ISO 29581 - 2	<b>1.4</b>	<b>1.0 - 3.0</b>
CaO (%)	IS EN 196 - 2	<b>65.7</b>	<b>63.0 - 67.0</b>	Na <sub>2</sub> O <sub>eqv</sub> (%)	IS EN 196 - 2	<b>0.60</b>	<b>0.45 - 0.75</b>
MgO (%)	IS EN 196 - 2	<b>1.3</b>	<b>1.0 - 2.0</b>	C <sub>3</sub> A	IS EN 196 - 2	<b>9.1</b>	<b>5.0 - 9.5</b>
Cr(VI) (ppm)	IS EN 196 - 10	<b>0.3</b>	<b>0.0 - 2.0</b>				