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B002 - High Strength Block Range  
**Concrete Manufacturing Company Ltd.**  
 Ballygaddy Road, Tuam, Co. Galway  
 EN771-3: 2011+A1:2015

NB 0050

050-CPD-0146

**Intended Use:** Common masonry unit for use as external walls, or as internal walls, in load bearing or non-load bearing building and civil engineering applications.

Essential Requirement	Declared Performance		
Unique code	100MM 13N	100MM 18N	100MM 24N
Dimensions			
Length	440mm	440mm	215mm
Width	100mm	100mm	65mm
Height	215mm	100mm	100mm
Dimensional Tolerances	D1	D1	D1
Configuration	SOLID Category 1 to EN 1996-1-1 Group 1		
Compressive Strength	Mean strength 13N	Mean strength 18N	Mean strength 24N
	Direction of load: Perpendicular to bed faces Category 1		
Dimensional Stability moisture movement	<0.6mm/m		
Shear bond strength	0.15N/mm <sup>2</sup> (Tabulated)		
	I.S. EN 998-2(Tabulated)Table NA.5 of NA:2010+A1:2014 to I.S. EN 1996- 1-1:2005+A1:2012		
Flexural Bond Strength	No Performance Determined		
Reaction to Fire	A1		
Water Absorbtion(g/m <sup>2</sup> s)	<20g/m <sup>2</sup> s		
Water Vapour Permeability	5/15μ		
Gross dry Density Kg/m <sup>3</sup>	1850-2100 Kg/m <sup>3</sup>		
Direct Airborne sound insulation	1850-2100 Kg/m <sup>3</sup>		
Net Dry Density Kg/m <sup>3</sup>	1850-2100 Kg/m <sup>3</sup>		
Direct Airborne sound insulation	1850-2100 Kg/m <sup>3</sup>		
Thermal Resistance	1.01 - 1.33 W / mK		

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Durability Against  
Freeze Thaw

Masonry Conditions/Situations in Table 14 (Durability of masonry in finished construction) of S.R. 325:2013+A2:2018 and used in accordance with Irish Building Regulations (including Technical Guidance Documents C & D), Eurocodes, I.S. EN 13914 - 1 & 2: 2016 and S.R. 325:2013+A2:2018)

Masonry Conditions/Situations A1 and A2 (Work below or near external ground level) and D (Rendered external walls (other than chimneys, cappings, copings, parapets, sills)) – Classes MX2.1/2.2/3.1: Category 1, Group 1:

- net density  $\geq 1,500 \text{ kg/m}^3$
- declared mean compressive strength  $\geq 7.5 \text{ N/mm}^2$  or a declared normalised compressive strength of  $\geq 10.5 \text{ N/mm}^2$
- mortar strength class: M4 (A1 / MX2.1/2.2/3.1), M6 (A2 / MX2.2)

Masonry Conditions/Situations A3 (Work below or near external ground level) and C1 and C2 (Unrendered external walls other than chimneys, cappings, copings, parapets, sills) – Class MX3.2:

Category 1, Group 1:

- net density  $\geq 1,500 \text{ kg/m}^3$
- declared mean compressive strength  $\geq 13 \text{ N/mm}^2$  and a declared normalised compressive strength of  $\geq 18 \text{ N/mm}^2$
- mortar strength class: M12

All masonry units produced with aggregate in accordance with I.S. EN 12620 (Aggregates for concrete) and S.R. 16:2016 (Guidance on the use of I.S. EN 12620, Aggregates for concrete)

- Irish Building Regulations (incl. Technical Guidance Documents C & D)
- Eurocodes
- I.S. EN 1996-1-1:2005 (Eurocode 6: Design of masonry structures. General rules for reinforced and unreinforced masonry structures (+A1:2012) (including Irish National Annex +A1:2014))
- I.S. EN 1996-2:2006 (Eurocode 6: Design of masonry structures. Design considerations, selection of materials and execution of masonry (includes Irish National Annex - NA:2010))
- S.R. 325:2013+A2:2018 (including Clause 5.5 (Exclusion of moisture), Clause 5.6 (Durability) & Table 14)
- I.S. EN 13914 - 1 & 2: 2016

Table 14 of S.R. 325:2013+A2:2018:

Masonry Conditions/Situations:

- A1 - Low Risk of Saturation
- (1) Without Freezing (MX2.1, MX2.2)  
(2) With Freezing (MX3.1)

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Durability Against  
Freeze Thaw continued

- A2 - High Risk of Saturation Without Freezing (MX2.2)
- A3 - High Risk of Saturation with Freezing (MX3.2)
- C1 - Low Risk of Saturation (MX3.1)
- C2 - High Risk of Saturation (MX3.2)

See masonry mortar strength classes in Table NA.3 of National Annex in I.S. EN 1996-1-1:2005

Table A.1 (Classification of micro conditions of exposure of completed masonry) of I.S. EN 1996-2:2006:

- MX2.1 - Exposed to moisture but not exposed to freeze/thaw cycling or external sources of significant levels of sulfates or aggressive chemicals
- MX2.2 - Exposed to severe wetting but not exposed to freeze/thaw cycling or external sources of significant levels of sulfates or aggressive chemicals
- MX3.1 - Exposed to moisture or wetting and freeze/thaw cycling but not exposed to external sources of significant levels of sulfates or aggressive chemicals
- MX3.2 - Exposed to severe wetting and freeze/thaw cycling but not exposed to external sources of significant levels of sulfates or aggressive chemicals

For Render (including mix, thickness and number of coats), see S.R. 325:2013+A2:2018 (including Clause 5.5.3.2.1 (Applied external surface finishes), Annex E (Specification for mortar for masonry - I.S. EN 998-1 and 2) and Annex F (National guidance to I.S. EN 13914-1:2016)) and I.S. EN 13914-1:2016 (including Clauses 5 (Materials), 6 (Design considerations) and 7 (Work on site, preparation and application of renderings)). Note: Rendering is affected by the combined action of freeze thaw cycles, wind, sun and rain, and their effects will depend upon the degree of exposure. Durability of render will depend on the correct choice of mix, thickness and number of coats and correct detailing

Dangerous substances

None