



NSAI: 050-CPR-0145

I.S. EN 771-3 2011 + A1 2015 Aggregate Concrete Masonry Units (Dense and Lightweight)**Company Name:** McGraths Limestone (Cong) Ltd.**13 -year CE mark fist applied**

Location	FPC Cert No.
Cong	NSAI 050-CPR-0145

EN 771-3:2011 + A1:2015 Category I, Group 1 Aggregate Concrete Masonry Unit**Dimensions:** Length (440mm), Width (100mm,140mm) Height (215mm)**Dimensional tolerances:** Category: D1**Configuration:** Group 1 unit to EN 1996-1-1 Vertical**Compressive strength:** Mean Air-Dry Mortar Capped 7.5N/mm², 10N/mm²(Refer to Docket)

Code	Description
4	100mm Solid Standards
4F	100mm Fine Texture
4/10N	100mm Solid Standards
6	140mm Solid Standards

Dimensional stability: Moisture Movement: 0.6 mm/m**Shear bond strength:** Fixed value 0.15(N/mm²)**Flexural bond strength:** NPD**Reaction to fire:** Euroclass A1**Water absorption:** $\leq 13\text{g/m}^2\text{s}$ (7.5N, not to be left unrendered in Exposed conditions. Refer to the Durability Below. All strengths: not to be used as a DPM).**Water vapour diffusion coefficient:** 5/15 μ **Direct airborne sound insulation:** Gross dry density >1900 kg/m³**Thermal conductivity:** 1.01 - 1.19 W/mK (λ_{10} , dry, unit, S1)**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 $\geq 10\text{N/mm}^2$ and a declared normalised compressive strength of $\geq 15\text{ N/mm}^2$
- 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)

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- Irish Building Regulations (including 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)
- 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

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