

NARIMA™ - Colourful Effects at No 1 Grand Canal Square, Dublin

Architects Duffy Mitchell O'Donoghue set out a brief for a highly transparent and unique external skin to a speculative office building in Dublin's south docklands area. The Architect's intention was for the building to act as a translucent foil to the two other highly opaque buildings nearby, the Art & Cultural Centre design by Daniel Libeskind and a Manuel Aires Mateus designed hotel.

The Architect was keen to explore the highly versatile aesthetic nature of glass and was determined to achieve a 'spandrel-less' glazed skin which clearly expressed the superstructure skeleton behind and used external laminated glass fins in a purely structural manner without the use of externally visible metal elements such as point-fixings or support profiles.

Billings Design Associates (BDA) designed a bespoke cladding system involving the use of staggered internal and external structural laminated glass fins with large format double glazing to meet the Architect's brief. The master plan for the locale stressed the requirement for a vertical emphasis in the composition of the facades while the Architects valued the calmer rhythm brought by the use of the 3.0m bays.

To meet the aesthetic brief of high transparency and in order to express the super structural skeleton, BDA proposed the use of AMIRAN® anti-reflective double-glazing by SCHOTT.

To express the use of glass as a pure structural form the Architect wanted to draw attention to the external glass fins and various traditional options such as ceramic fritting, etching and patterned laminates were considered without satisfaction. BDA were aware of SCHOTT's dichroic glass product called NARIMA™ through its use as a non-structural aesthetic element on the Nord Landesbank building in Hanover and proposed it as an option for consideration. The Architects were impressed by the unique aesthetic characteristics of the product and the resulting variety in its appearance under different conditions.

- more -

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As NARIMA™ dichroic glass had not previously been used in a laminated structural glass fin construction, with exposed edges and restrained in a unique manner only on the building side, BDA sought verification as to its long-term technical characteristics from a durability and structural point of view.

BDA wrote the method for an extensive prototype testing regime for inclusion in the specification which involved full-scale system testing of the glass construction utilising the NARIMA™ fins and individual fin-type structural testing. This testing regime was undertaken by an independent testing authority over a five day period in Attnang, Austria at the premises of GIG Fassadenbau GmbH who had successfully tendered for the glazing sub-contract works. Concurrently accelerated age/corrosion tests on the NARIMA™ glass structural fins were successfully undertaken in the ISF Institute in Aachen University. Numerous cut sections of the fins were subjected to CASS, SS and KK tests in accordance with DIN Standards and examined for de-bonding, de-lamination and discolouration.

The vast majority of the glazing works are now installed and the glazing system and elements for this highly bespoke glazing solution have been successfully procured within budget and on programme thanks to all parties involved in the project.

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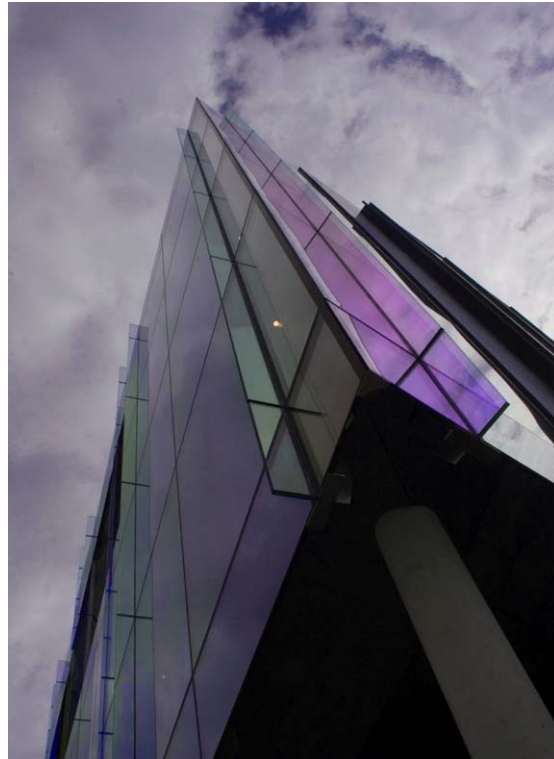
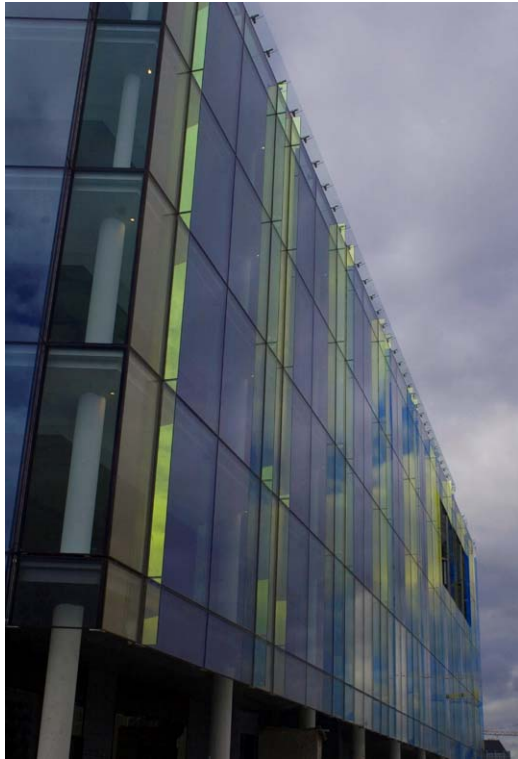
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NARIMA™ dichroic glass draws attention to the external glass fins of No 1 Grand Canal Square

Notes for Editors:

Billings Design Associates (BDA) is a façade design consultancy developing project specific solutions and products for the building façade industry working with developers, architects and contractors.

DMO'D is an architectural practice working in various fields with a mission statement to 'design and deliver buildings and places of distinction'. They work with a mix of public and private sector clients.

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SCHOTT is a multinational, technology-based group with the core purpose of reaching a sustainable improvement to how people live and work through developing, manufacturing and supplying specialty materials, components and systems. The company's main markets are household appliances, architecture and design, pharmaceutical industries, the solar energy sector, electronics and optics.

Project Team

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Architect:	Duffy Mitchell O'Donoghue (DMO'D)	(www.dmod.ie)
Cladding Consultant:	Billings Design Associates (BDA) Ltd	(www.billingsdesign.ie)
Main Contractor:	G & T Crampton Ltd	(www.gtcrampton.ie)
Cladding Sub-Contractor:	GIG Fassadenbau GmbH	(www.gig.at)

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