

Granite[®] HDX Robust

Built to last
Protected to perform



Granite[®] HDX Robust

Granite[®] HDX Robust is a high-end pre-painted steel for outdoor applications combining an excellent UV and corrosion performance with a robust surface.

It is composed of three paint layers for a total organic-coated thickness of 60µm.

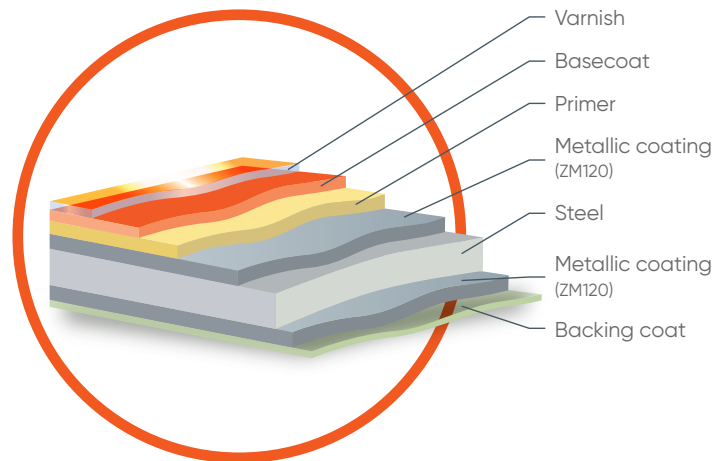
The third layer is made of grained varnish especially developed to provide an excellent resistance to scratches.

Behind the paint, the Zinc Aluminium Magnesium based Optigal[®] ZM120 provides a superior protection against corrosion.

Granite[®] HDX Robust has been especially developed to avoid scratches during processing and handling of roofing and cladding profiles and panels.

Thanks to Granite[®] HDX Robust, the use of protective films can be avoided in many cases.

However, removing the protective film means that usage practices might need to be adapted. For instance, particular attention must be paid to the cleanliness of the facilities and to transport and storage methods.



Granite[®] HDX Robust is an optimised alternative to plastisol PVC pre-painted steel.



FIRE REACTION

Fire reaction of Granite[®] HDX Robust (A1) makes it a safer choice for building envelopes compared to PVC-plastisol paint (C-s2,d0). Use of Plastisol paints is not recommended on roofs equipped with PV modules ⁽¹⁾.



UV PERFORMANCE

The UV performance (RUV5) of Granite[®] HDX Robust ensures the stability of aesthetics without geographical restrictions in Europe, when PVC-Plastisol paints (RUV3) offer a poor stability of colours over time, which is a problem especially for commercial buildings where colour is part of the brand.



MAXIMUM TEMPERATURE OF USE

Maximum temperature of use (60°C) of PVC-Plastisol is not adapted to roofs in more extreme sun and temperature environments, especially for sandwich panels and dark colours. Granite[®] HDX Robust can tolerate much higher temperature of use without degradation (100°C).



SUSTAINABILITY

Granite[®] HDX Robust emits much less CO₂eq. than PVC-Plastisol thanks to its reduced paint thickness. In addition, in contrast to Plastisol, Granite HDX Robust does not contain plasticisers, fire retardants or heat stabilisers, which may pose risks to people and environment according to ECHA.

(1) "RC62: "recommendations for fire safety with PV panel installations" issued in 2023 by the FPA

Granite® HDX Robust

combines an excellent UV and corrosion performance

An excellent durability for both rural and marine environments

Granite® HDX Robust offers a superior corrosion resistance. This has been fully tested by ArcelorMittal's Global R&D experts under extreme corrosion and weathering conditions.

Tests have been conducted both in the laboratory, and at outdoor exposure sites across the world.

Granite® HDX Robust is classified RC5+ according to the EN 10169 standard for organic coated steels.

Granite® HDX Robust will ensure the durability and sustainability of facades and roofs, even in corrosive environments.

A superior UV weathering resistance

Granite® HDX Robust is rated RUV5 under the EN 10169. This is the highest UV resistance category in the standard. It indicates that the paint system will maintain its colour and gloss over time.

UV weathering resistance is evaluated by exposing a pre painted sample of Granite® HDX Robust to accelerated UV, humidity, and temperature variations for 4,000 hours. The accelerated tests are complemented by natural outdoor exposure tests which have been carried out at locations around the world.

- AREA A - Northern Europe:**

 - Below 66° north parallel
 - East of 12° west longitude
 - West of 60° east longitude

* Guarantee extended to Iceland and mainland Norway, Sweden and Finland above the 66° north parallel
- AREA B - Southern Europe:**

 - Portugal, Spain, Corsica, Albania, Greece, Republic of Macedonia, Malta
 - The southern part of Italy (the Lazio and Abruzzo regions and below)

* Guarantee extended to Armenia, Azerbaijan, Georgia, Tajikistan and Turkey

Guarantee for non-perforation of the sheet metal and for non-delamination of the paint film

External environment		Corrosivity category as per EN 10169	Duration (in years)
Rural	Unpolluted	C2	35 years
Urban and/or Industrial	Moderate pollution	C3	30 years
Industrial	High pollution	C4	20 years
Marine	3 to 20 km	C3	30 years
	1 to <3 km	C4	20 years
Coastal	300 m to <1 km	C5	15 years
Altitude > 900 m	Strong UV		15 years

(1) Backing coat 12 µ minimum mandatory
For a Z225 metal coating, the length of the automatic guarantee is reduced.
A minimum 10 µm back coat is mandatory.

Guarantee for aesthetic properties
Colour stability and gloss retention (in years)

		Area A	Area B
ΔE ≤ 3	GR ≥ 80%	7	7
ΔE ≤ 5	GR ≥ 50%	12	12

C5 environments below 300 m from the seafront excluded

Geographical scope of the guarantee

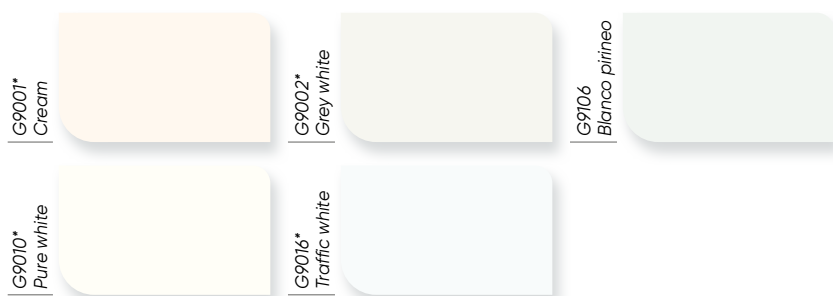


For details, please consult the Granite® automatic guarantee document.

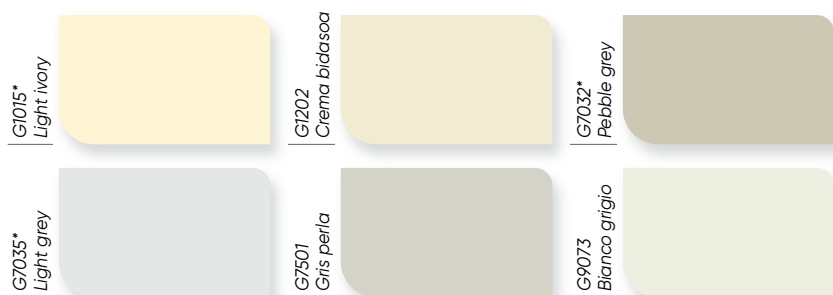
Available in 39 colours

Granite® HDX Robust is made of slightly grained surface. It is available in a wide range of satin and metallised colours.

Category 1: Classic Light



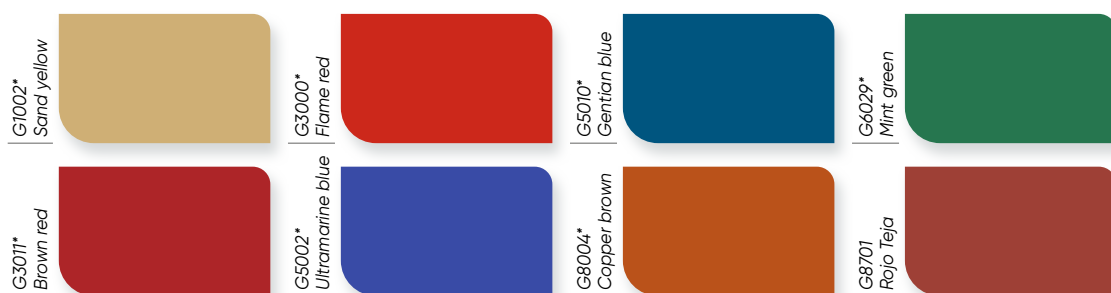
Category 2: Classic Medium



Category 3: Classic Dark



Category 4: Magic Saturated



Category 5: Magic Metallised



* Closest RAL code (approximation)

Standard gloss: 30 GU. Some colours are available with different GU values and can be ordered on request. It may be possible to order specific colours which are not included in our standard offer after consultation with ArcelorMittal.

A low CO₂ solution for building envelope

Sustainable steel

Safe composition: free from heavy metals and REACH-compliant.

100% and infinitely recyclable without quality loss.

Energy efficient: several colours are available with high Total Solar Reflectance (TSR) and Solar Reflectance Index (SRI typically up to 96)

Contributes to sustainability **certifications** such as LEED, BREEAM and HQE.

Environmental Product Declaration (EPD) available

Available as low carbon-emissions steel

Granite[®] HDX Robust is available with a CO₂ footprint reduced by up to 65% compared with the conventional manufacturing route. XCarb[®] recycled and renewably produced steel is made via the electric arc furnace process with high scrap content and powered entirely by renewable electricity.

By choosing Granite[®] HDX Robust made with XCarb[®], you benefit from a unique combination of sustainability, durability, and design excellence.



XCarb[®]

Recycled and renewably produced



[https://industry.arcelormittal.com/
repository2/fce/Brochures/
GraniteEstetic_EPd_EN.pdf](https://industry.arcelormittal.com/repository2/fce/Brochures/GraniteEstetic_EPd_EN.pdf)

Parkway Gate, Manchester (UK)
Architect: Ian Simpson Architects
Photograph: © Daniel Hopkinson

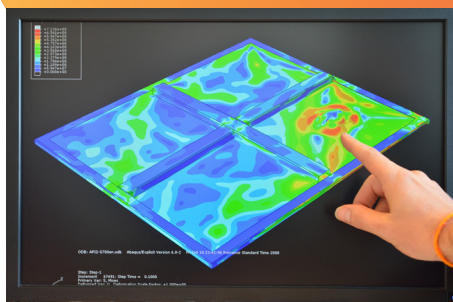
Granite[®] HDX Robust

Properties	• Excellent surface robustness • Excellent corrosion resistance • Very good UV resistance • Very good formability • Thermosetting paint • Surface treatment and paint: free of hexavalent chromium and heavy metals	
Applications	External uses in severe environments: profiles, sandwich panels for roofing and cladding	
Description	Thickness ⁽¹⁾	60 microns
	Composition	Front: primer + base coat + varnish Back: 12 microns backing coat recommended
	Gloss (Gardner 60°) ⁽¹⁾	30 GU Other gloss levels on request
	Colours	Colour palette Specific colours on request
	Appearance	Grained
	Temporary protective film	Generally not required
	Adhesion of the coating (T-bend)	≤ 1 T
Performance	Resistance to cracking on bending (T-bend)	≤ 2 T
	Impact resistance	18 J
	Clemen scratch resistance	≥ 3,5 kg
	Corrosion resistance:	
	• Salt spray test	700 hours
	• Corrosion resistance category	RC5+
	Condensation resistance:	
	• QCT test	1500 hours
	• Corrosion resistance category	CPI4
	UV resistance:	
	• QUV (UVA + H ₂ O) test (4000 hours)	ΔE ≤ 2; GR ≥ 80%
	• UV resistance category	RUV5
	Fire behaviour classification (EN 13501-1)	A1
Remarks	Resistance to acids and bases	Good to very good
	Resistance to solvents:	
	• Aliphatics and alcohols	Very good
	• Ketones	Low
	• Aromatics	Good to very good
	Resistance to mineral oils	Very good
	Maximum continuous operating temperature	100°C
These performance characteristics refer specifically to metallic coating ZM120 (guaranteed minimum). If any product (film, oil, foam, glue, paint etc) is to be applied after coil delivery, compatibility with the coating needs to be checked first. Although we take great care to reproduce the same aesthetic aspect on each coil, ArcelorMittal cannot guarantee the visual consistency from one single order item to another. Consequently, you need to consider placing one single order for one building; standard samples can only serve as a guide.		
<i>(1) Nominal value, tolerance according to EN 10169</i>		

Technical and Marketing Support

ArcelorMittal is also a marketing partner who talks to architects and builds common promotion initiatives with our customers.

- Assistance in building eco-design (Licab)
- Simulation tools and data for energy saving, load calculation and fire resistance
- Optimisation of your structural profiles, purlins and roofing tiles
- Co-engineering projects to create your winning steel solutions of the future



Simulation of a roof tile panel
Photograph: © ArcelorMittal Global R&D

Find out more

constructalia.arcelormittal.com

ArcelorMittal's dedicated platform for the construction sector—your go-to resource for everything related to Granite® HDX Robust and our full range of steel solutions for building applications.

Order samples

[industry.arcelormittal.com/
samplewebshop](https://industry.arcelormittal.com/samplewebshop)

Contact us

[europe.arcelormittal.com/
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