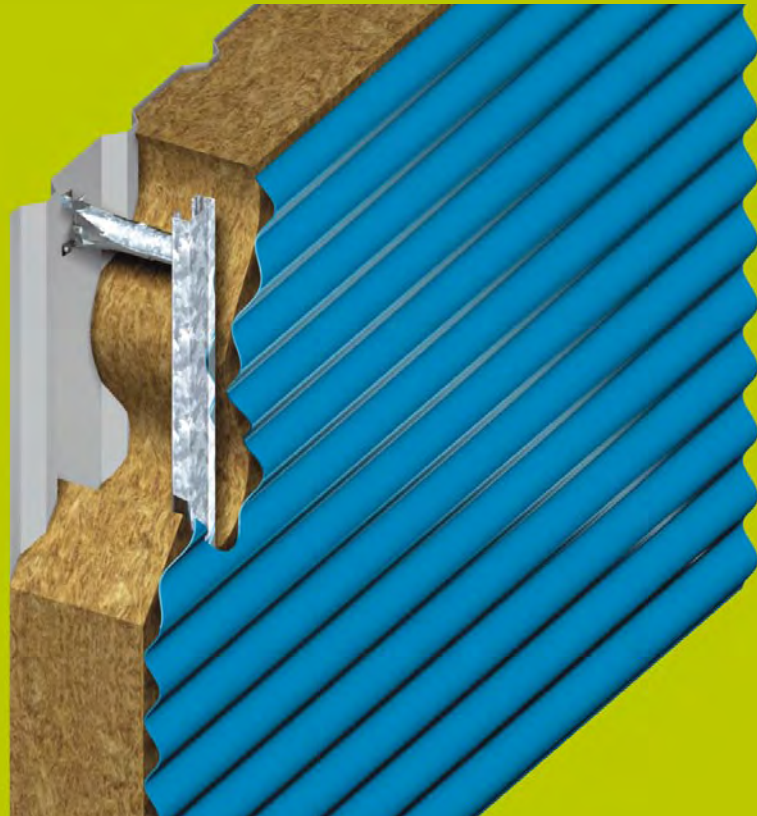


Elite 57 wall

Colorcoat® assessed cladding system

Environmental product declaration



This is a niche horizontal wall system using Euroclad external profiles in Corus Colorcoat HPS200® and Corus Colorcoat Prisma®, combined with the Eurobar Mast spacer system and mineral fibre insulation.

Elite System 57 offers: Economical horizontal cladding; Fast installation; Application for industrial, storage and distribution buildings; Fire rated version; Simple on-site installation; Pleasing aesthetics.

An Environmental Product Declaration (EPD) provides a summary of the environmental impacts of a product or system from **cradle to grave**.

The data published here is based on an initial Life Cycle Assessment (LCA) study conducted by Corus in 2002 in accordance with the international standard ISO 14040-3. This LCA has been subsequently refined and extended to include more products and systems.

It is important that all LCA studies are carried out using this standard and that a critical review is used to ensure high levels of quality and consistency. This will make the results more meaningful for all parties.



The Colorcoat® brand

Colorcoat® products and services

The Colorcoat® brand provides the recognised mark of quality and metal envelope expertise from Corus. Developed over 40 years, Colorcoat® includes a range of pre-finished steel products with a proven track record on countless buildings worldwide, supported by a range of services, including guarantees, colour consultancy and expert advice and guidance.

Colorcoat HPS200®

Exclusive coating technology, superior performance and the comprehensive Confidex® Guarantee make Colorcoat HPS200® the most specified pre-finished steel product in Europe for roof and wall cladding. Now maintenance free for up to 30 years.

Colorcoat Prisma®

The ideal choice to deliver eye-catching buildings that will stand the test of time. Technically and aesthetically superior to PVDF (PVF2), Colorcoat Prisma® is readily available in the most popular solid and metallic colours. All backed up by the comprehensive Confidex® Guarantee providing cover for up to 25 years on walls.

Repertoire® Colour Consultancy

The Repertoire® Colour Consultancy can provide technical advice and guidance on standard as well as bespoke colours to feed the imagination and inspire design. Corus can match almost any shade from physical swatches to commonly used references such as RAL, NCS and British Standard and more unusual standards.

Confidex® Guarantee

Evolved from the 40 years experience Corus has in pre-finished steel development and manufacture, the Confidex® Guarantee is clear and simple to register and is available with Colorcoat HPS200®, Colorcoat Celestia® and Colorcoat Prisma®. Offered directly to the building owner, it can easily be transferred if building ownership changes and provides complete peace of mind for up to 30 years.

Colorcoat Connection® helpline

A dedicated helpline offering advice and guidance on the performance of Colorcoat® products, how to comply with Building Regulations, where to source complementary products and much, much more.

Colorcoat® Building manual

Developed in consultation with architects and other construction professionals, the Colorcoat® Building manual incorporates over 40 years of Colorcoat® expertise. Recently updated to cover the changes to Part L (2006) Building Regulations, it provides an invaluable guide to designing, specifying and constructing the metal building envelope.

If you require any further information please call the Colorcoat Connection® helpline. Alternatively, further information can be found in the Colorcoat® Building manual or at www.colorcoat-online.com



Corus Colorcoat® supply chain

Over 40 years, Corus has developed close strategic relationships with a small number of market leading roof and wall cladding system manufacturers. Specifying Colorcoat® products through one of these strategic partners ensures access to the very best technical guidance, quick availability and the highest levels of quality and service. Together we provide a quality building envelope solution that delivers peace of mind.

Corus Colorcoat® assessed system

Corus has assessed the environmental impact of this cladding system, which has been designed to perform to the highest standards of thermal performance, air-tightness and structural performance and can be recycled at the end of its life, ensuring the most sustainable system for the building envelope.

Confidex Sustain™

Confidex Sustain™ offers the first Carbon Neutral building envelope in the world, measuring and offsetting its impact from cradle to grave i.e. manufacture through to installation, use and end of life. Available when Colorcoat HPS200® and/or Colorcoat Prisma® are specified as part of a Colorcoat® assessed cladding system, Confidex Sustain™ covers the whole cladding system, from the pre-finished steel used for the inner and outer sheets, to the fixings, insulation and spacer system if required.

Cladding system assumptions

- The functional unit is 1000 m² of pre-finished steel cladding in the main body of the roof or wall excluding rooflights and edge details at eaves, ridges and walls.
- The cladding system is covered in entirety and includes fixings, insulation and the internal and external pre-finished steel cladding sheets and their associated spacers. Sealant strips, mastics and tapes have been excluded due to their negligible impact on the whole system analysis.
- The cladding system lifetime is defined as the appropriate Confidex® Guarantee Period for the pre-finished steel product specified e.g. Colorcoat HPS200® or Colorcoat Prisma®.
- Thermal performance is specified in accordance with Part L Building Regulations 2006, nominal U-value 0.32 Wm⁻²K for wall and 0.25 Wm⁻²K for roof systems, with an air permeability bettering 10 m³/hr/m². Detailing and installation are in accordance with the MCRMA, system manufacturers installation guide and Corus best practice.



Material declaration

Material content per 1000 m² cladding system.

| Steel | kg | % | Others | kg | % |
|----------------------------------|-----------|-------|------------|----------|-------|
| Cladding (inner and outer sheet) | 10,457.05 | 63.44 | Insulation | 4,200.00 | 25.48 |
| Spacer | 1,777.78 | 10.79 | | | |
| Fixings (stainless steel) | 48.33 | 0.29 | | | |

Cradle to grave analysis

The cradle to grave analysis covers all life cycle stages.

End of life

Includes impacts from:

- built-up system steel content 79% recycled, 15% re-used, 6% landfill.
- composite panel steel content 100% recycled, 0% re-used, 0% landfill.
- all insulation to landfill (foam and mineral wool). Although they have the potential to be recycled current practice for demolition, and other limitations, results in most insulants being landfilled.
- 95% recovery of composite panel blowing agent by fridge recycling process.

Production of system components

Includes impacts from:

- production of pre-finished steel and spacer bars.
- production of insulation.
- production of fixings and plastic components.

Use

As Colorcoat HPS200® and Colorcoat Prisma® are maintenance free, no significant environmental exchanges occur during the building lifetime.

Transport

Includes impacts from:

- delivery from Corus to system manufacturer.
- delivery to site.
- delivery of insulation and other system components to site.

The difference between the number of vehicles required to transport built-up and composite systems to site is also accounted for.

System installation

Includes impacts from:

- allowances made for cladding side and end-laps.

System manufacture

Includes impacts from:

- profiling of pre-finished steel for cladding.
- composite panel manufacture (foam and mineral wool).
- 6% of composite panel blowing agent lost in manufacture.





Life cycle assessment

Environmental impact categories:



Global warming

The rising of global temperatures due to emissions of green house gases. Measured in kg eq.CO₂. Includes the impact of high global warming potential gases such as the Hydrofluorocarbons (HFCs) used in PIR foam manufacture.



Acidification

The damage caused to trees and life in lakes and rivers as a result of the increase in pH of terrestrial watercourses due to the release of acidifying gases to atmosphere.



Eutrophication

A form of water pollution that can result in the loss of plants and animals in aquatic ecosystems. The release of nitrogen and phosphorus from fertilisers and detergents and organic matter from effluent can lead to an acceleration of the natural oxygen depletion in water courses.



Photochemical oxidant formation

Emissions of Volatile Organic Compounds (VOCs) and nitrogen oxides can interact in the lower atmosphere to cause smog which can be harmful to human health and the environment.



Resource depletion

The depletion of natural resources such as oil, coal and metals due to their extraction and consumption.









Embodied energy

The quantity of energy required to manufacture, and supply to the point of use, a product, material or service. The embodied energy of pre-finished steel is comparable to many other construction materials. However, as it can be recycled without effecting quality, the embodied energy is reduced over multiple life cycles. Therefore, the embodied energy is much less significant than the energy consumed through heating, cooling and lighting of a typical building.

Environmental impacts of the system at the relevant life cycle stages

Per 1000 m² cladding system.

| | Units | Colorcoat HPS200® | | | Colorcoat Prisma® | | |
|---|-------------------------------------|-----------------------------|-------------|-----------|-----------------------------|-------------|-----------|
| | | Production and installation | End of life | Total | Production and installation | End of life | Total |
|  | kg eq. CO ₂ | 46,025.27 | -20,831.67 | 25,193.60 | 45,692.34 | -20,781.73 | 24,910.61 |
|  | kg eq. SO ₂ | 107.49 | -23.15 | 84.34 | 106.16 | -22.95 | 83.21 |
|  | kg eq. PO ₄ ⁻ | 14.72 | -3.97 | 10.75 | 14.46 | -3.93 | 10.53 |
|  | kg eq. ethylene | 90.58 | -17.92 | 72.66 | 90.42 | -17.89 | 72.53 |
|  | kg eq. Sb | 237.23 | -106.46 | 130.77 | 231.18 | -105.55 | 125.63 |
|  | GJ | 578.98 | -215.08 | 363.90 | 568.14 | -213.46 | 354.68 |

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