







Colorcoat Prisma®

Environmental Product Declaration


This document provides a summary of the environmental impacts of Colorcoat Prisma®, from cradle to cradle. It is based upon the product being used in a built-up system and includes all the impacts associated with this from manufacture through to installation and end of life.


	Units	Production & installation	End of life	Total
	kg eq. CO ₂	43,250.83	-19,854.99	23,395.84
	kg eq. SO ₂	103.77	-22.20	81.57
	kg eq. PO ₄ ⁻	13.91	-3.79	10.12
	kg eq. ethylene	84.84	-17.81	67.02
	kg eq. Sb	218.21	-101.02	117.19
	GJ	539.35	-205.03	334.32


Based on 1000 m² roof area in a built-up mineral fibre insulated system. Thermal performance is specified in accordance with Part L Building Regulations 2006, nominal U-value 0.25 Wm⁻²K for roof systems, with an air permeability bettering 10 m³/hr/m².


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. The embodied energy is much less significant than the energy consumed through heating, cooling and lighting of a typical building.

Material declaration

Material content per 1000 m² cladding system.

Steel	kg	%	Others	kg	%
Cladding (inner and outer sheet)	10,843.00	68.34	Insulation	4,320.00	27.22
Spacer	670.00	4.22			
Fixings (stainless steel)	35.00	0.22			

Eco-design of Colorcoat Prisma[®]

Eco-design is about minimising the environmental impacts of a product over its whole life, from raw material production through to manufacture and end of life.

Raw materials

The raw materials used in Colorcoat Prisma[®] have been selected to increase its performance and reduce the potential environmental impact throughout the production phase. All traces of heavy metals have been removed from the topcoat and it is also free from fire retardants. These have been done carefully, to ensure there is no detrimental impact on the overall performance of Colorcoat Prisma[®].

Corus has ensured that substances with potential for endocrine disrupting or bioaccumulative effects are not used in Colorcoat Prisma[®]. Additionally, there are no plasticisers within the topcoat.

Manufacture

The process used to make Colorcoat Prisma[®] is highly efficient in its use of raw materials and energy. All process emissions are strictly controlled and residual solvent vapours are rendered harmless by thermal oxidation with the heat generated being used in the painting process, saving energy. Computerised control ensures that virtually all the paint used is applied to the steel.

The Corus Colorcoat[®] manufacturing site at Shotton is accredited to ISO 14001 (International Environmental Management Standard) and there are a number of initiatives with suppliers to ensure they employ sound environmental practices and support the Corus ethical sourcing policy. All our supply chain partners are also accredited to ISO 14001.

Re-use and recycling

Pre-finished steel is widely recognised as easy to disassemble, segregate and is also 100% recyclable. The well-established network of scrap metal processors and recyclers ensures that almost all steel products, including pre-finished steel, can either be re-used or recycled at the end of their life. Current data suggests that 94% of construction steel is either re-used or recycled.* Recycling steel saves energy and resources by avoiding the need for steel production from virgin sources. This environmental saving is given as a credit when the steel is recycled as the end of its life.

* Steel Construction Institute recycling survey 2001 (UK).

Data sources

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.

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