

www.nipponsteel.com/product/nscarbolex



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NIPPON STEEL CORPORATION

2-6-1 Marunouchi, Chiyoda-ku,Tokyo 100-8071 Japan Tel: +81-3-6867-4111 NSCarbolex™ E002en_02_202507f © 2024, 2025 NIPPON STEEL CORPORATION





NSCarbolex[™] Innovative action for sustainability

Products and solution technologies to help reduce CO₂ emissions in society as a whole.

Nippon Steel Carbon dioxide less



NIPPON STEEL CORPORATION





Nippon Steel offers two values: NSCarbolex Neutral and NSCarbolex Solution.

Nippon Steel has set forth the "Nippon Steel Carbon Neutral Vision 2050" and is working to reduce CO₂ emissions as its most important management issue.

NSCarbolex is a general brand name for products and solution technologies to help reduce total greenhouse gas including CO₂ ("CO₂") emissions in society as a whole, offered to society by Nippon Steel through these efforts.

Green Transition / Transformation Steel ("GX Steel") allocated CO₂ emissions savings through the application of the mass balance approach.



Advanced products and solution technologies that contribute to reducing CO₂ emissions in society



NSCarbolex contributes to reducing CO₂ emissions in every aspect, from the raw materials stage, through our customers' manufacturing processes, to product use and disposal.

1) Raw materials

Raw materials etc.

Customers

Scope 1:

Direct emissions from the reporting company's factories, offices, vehicles,

Scope 2:

Indirect energy-derived emissions from electric power and other energy consumed by the reporting company

Scope 3:

Indirect emissions other than Scope 1 and Scope 2 (Emissions by others related to the company's activities).

Source: Ministry of the Environment website

CO₂ emissions in customers' supply chain

Scope 3

4 Upstream transport and



*others: 2 Capital goods, 3 Fuel- and energy-related activities not include in Scope 1 or Scope 2, 5 Waste generated in operations,

6) Business travel, (8) Leased assets(upstream)

Contributing to reducing CO₂ emissions from our customers' raw materials

Scope 1



Fuel Combustion

Scope 2



Electricity Usage



Scope 3



(11) Product use

12 Product disposal

*others: 9Downstream transport and delivery, 10Processing of sold products, ³Leased assets(downstream), 14 Franchises, 15 Investments

Contribute to reducing CO₂ emissions in manufacturing processes of our customers and during the use of our customers' products.

Product use, disposal, etc.



GX Steel, embodying the reduction of CO_2 emissions in the steel manufacturing processes as an environmental value through the application of the mass balance approach.

NSCarbolex Neutral is the GX Steel to which part of the amount of CO₂ emissions actual savings in Nippon Steel's product manufacturing processes ("NSC Total CO₂ Emissions Savings") are allocated through the application of the mass balance approach.

As the demand for decarbonization in society continues to grow, we believe that accelerating efforts towards decarbonization will enhance the competitiveness of our customers.

Nippon Steel aims to contribute our customers in their decarbonization by establishing a stable supply system for NSCarbolex Neutral at an early stage.

4 Features of NSCarbolex™ Neutra



Utilize actual CO₂ emissions savings through Nippon Steel's own transformative actions and improvements in its product manufacturing processes

NSCarbolex Neutral is the steel products to which part of the NSC Total CO_2 Emissions Savings achieved through the CO_2 reduction project of Nippon Steel as the countermeasures with additionality* are allocated.

* "Countermeasures with additionality" means the measures that have been implemented at our expense and that have resulted in an actual reduction of Scope 1+2 CO₂ emissions at Nippon steel.



Obtains assurance from an independent third-party organization and issue a certificate

Nippon Steel obtains a limited assurance from a third-party organization and issues a certificate* ensuring fairness.

* Nippon Steel obtains a limited assurance from a third-party organization in relation to the total CO₂ emission reductions achieved through its measures with additionality and the appropriateness of its operation of the mass balance approach.)



Contributes to the reduction of Scope 3 CO₂ emissions of customer

The CO₂ emission reductions shown on the certificate can be reported as a deduction from the Customer's Scope 3 GHG emissions and the upstream emissions at the Customer's product level*

*This is our interpretation based on information available at the time of publication of this brochure and is subject to change due to future revisions of the system."



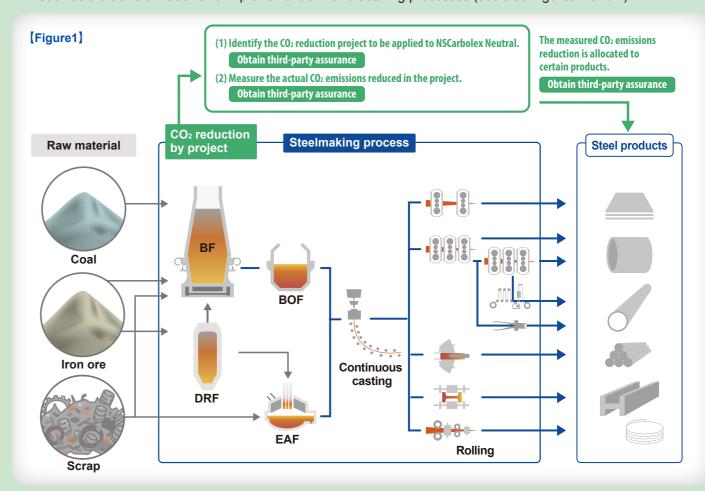
Applicable to all steel products manufactured by Nippon Steel

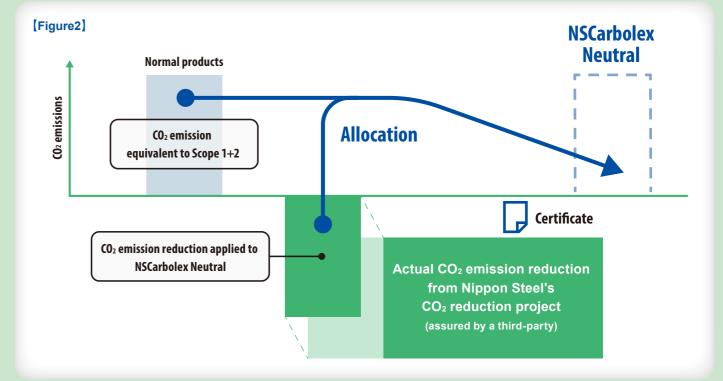
All steel products manufactured by Nippon Steel can be supplied as NSCarbolex Neutral. Furthermore, these products are available with the same quality as the ones the customers are already using.





It is not easy to reduce carbon emissions in the steel industry, and it is expected to take a long time to develop decarbonization technologies. In this context, through the application of the mass balance approach, Nippon Steel will be able to quickly deliver to customers the CO₂ emission reduction effects achieved through projects such as the transformation and improvement of manufacturing processes (see also Figures 1 and 2).







Advanced products and solution technologies that contribute to the reduction of CO₂ emissions in society.

Nippon Steel offers a variety of advanced products and solution technologies that contribute to reducing CO₂ emissions in society.

We systematized these items and launched a brand "NSCarbolex Solution".

Nippon Steel will make even greater contributions to reducing CO₂ emissions of customers and society by making efforts and providing information to be more useful than ever to our customers, and expanding our lineup of NSCarbolex Solution through further development of products and technologies.

Four values provided by NSCarbolex™ Solution

Reducing CO₂ emissions in customer manufacturing processes

Contributing to reduce CO₂ emissions by process saving and labor saving and time saving.





FeLuce™

Hairline-like design on the plated layer allows a steel material itself to realize a beautiful design.

Key points for reducing CO₂ emission:

CO2 emissions from painting in the appliance

Reducing CO₂ emissions when customer products are used in society

Contributing to reduce CO₂ emissions throughout a product's life cycle through energy-saving products and extension of maintenance cycles.





High-efficiency electrical steel sheets

Advanced steel plate that

Key points for reducing CO2 emissions

Improving motor efficiency to make hybrid cars,

Reducing CO₂ emissions from material sources

Contributing to reduce CO2 emissions by enhancing of material strength and proposing construction methods and designs, we make it possible to reduce the amount of material used per product.





NSafe^{IM}-AutoConcept

Contributing to the reduction of vehicle weight by proposing solutions such as high-strength materials, designs, and construction

Key points for reducing CO2 emissions

Automotive bodies and parts can be manufactured

Contributing to the energy transition of society

Contributing to the energy transition of society by providing advanced products and technical solutions necessary for disseminating renewable energy.



HYDREXEL

Stainless steel for high-pressure hydrogen, required for building infrastructure such as

Key points for reducing CO₂ emissions

Contributing to the realization of a hydrogen society.

For further information ▶▶▶



Our advanced products and solution technologies contribute to the reduction of CO₂ emissions in every field of society.



Energy

Highly corrosion-resistant coated

Eliminating the plating and the painting processes for custom-

Contributing to the expansion of solar power generation.

· Contributing to the longevity of steel components in infrastructure and other applications.

steel sheets ZEXEED™

7%/9% Ni steel plate for

Energy

LNG storage tank Contributing to expand the use of natural gas with less environmental

Energy

High-alloy oil country tubular goods

- · Contributing to the spread of CCS and geothermal power generation.
- Reducing CO2 emissions during steel tube manufacturing and replacement by reducing the frequency of steel tube

Construction and building



- · Improving efficiency of construction work.
- Constructing buildings with fewer materials.



Containers



Polymer Laminated Tin-free steel

· Eliminating customers' painting



TranTixxii™

· Eliminating customers' painting

Provided by: Snow Peak Co., Ltd.

Automotive



Steel for high strength gears

- · Improving the fuel efficiency and electric efficiency of automobiles.
- Reducing the number of parts and the weight of parts.



Railway

150 meters (480ft) rails

Improving rail installation efficiency and minimizing weld points.



Lightweight wheels and axles for high-speed

Contributing to energy savings through the train operation.