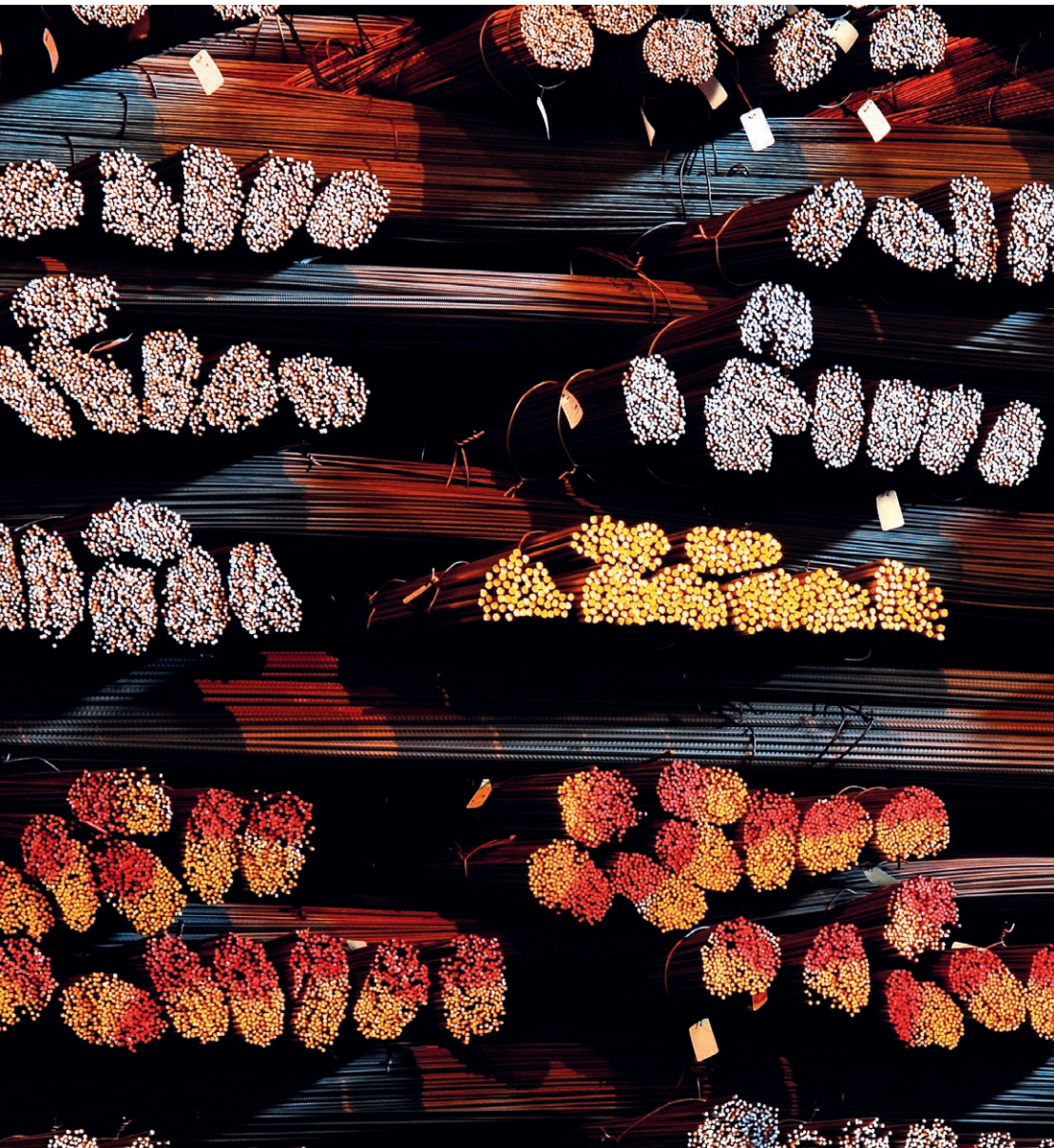


YOUR ASSURED STEEL PRODUCTS SUPPLY CHAIN



The CARES Sustainable Constructional Steel Scheme Summary Report 2016/17



PERFORMANCE

See the latest data and new targets to 2020

SUPPLIERS

Take a look at the global reach of the scheme

SPECIFY

Learn how to procure sustainable steel products

Contents

- 03 Executive statement
- 04 Locations of CARES sustainability scheme-approved suppliers
- 05 Providing assurance to the construction industry
- 06 Procuring Sustainable Constructional Steel
- 07 Summary performance

Who are CARES?

CARES is an independent, not-for-profit certification body. It operates for the benefit of the construction industry offering certification schemes for companies that produce materials, components or offer services, primarily to the reinforced concrete industry. Clients can specify CARES approved companies and products with the confidence that they will comply with the relevant product or system standards and without the need for verification testing by the purchaser or contractor.

CARES is governed by its Board and advised by its Policy Advisory Committee composed of the following Members: Association for Consultancy and Engineering, LHR Airports Ltd, British Association of Reinforcement, Civil Engineering Contractors Association, CONSTRUCT, BuildUK, Highways England, Institution of Structural Engineers, Post-Tensioning Association, UK Steel Association. The Chairman's nominees are International Steel Trade Association, Office for Nuclear Regulation (ONR/HSE), Rail Safety and Standards Board, and a stainless steel specialist.

About this report

This report focuses on the latest updates and performance of the CARES' Sustainable Constructional Steel (SCS) Scheme. New data for 2016 is included together with scheme developments in 2017.

It shows how a CARES-approved supply chain for constructional steel can help reduce business risk and provide a range of other benefits. For information on the wider operations of CARES and other certification schemes offered by CARES please refer to our website and annual operating plan.

The principles within the Global Reporting Initiative (GRI) Standard 101, inform the report's development. 2015 is the updated baseline year for the sector's environmental, social and economic metrics used in the report. We welcome your comments and feedback on this report and on how the constructional steel sector can contribute to a sustainable future.

The Sustainable Constructional Steel (SCS) Scheme

CARES is accredited by the UK Accreditation Service (UKAS) to provide certification for management systems, product conformity and – the subject of this Report – sustainability management and performance.

The SCS Scheme accompanies CARES' product conformity Schemes and operates in compliance with BS 8902: 2009 'Responsible sourcing sector certification schemes for construction products'. This Standard provides a framework for the responsible management, development, content and operation of sector certification schemes for supply of construction products.

The SCS Scheme was specifically developed for the constructional steel supply chain: it enables suppliers to declare the sustainability performance of their products and organisation. The SCS Scheme enables the collation and reporting of the sector environmental and social management and performance against key performance indicators. It also sets targets for future performance.

A key benefit for the end user is that constructional steel products from CARES-approved suppliers are fully traceable, allowing an assured chain of custody from mill to site.

Executive statement: Moving towards the Sustainable Development Goals

In September 2015, the UN launched one of the most important initiatives of our time, the Sustainable Development Goals (SDG's) or the Global Goals. Developed and backed by multiple stakeholders, these 17 goals provide a vision to transform our world. The CARES Sustainable Constructional Steels (SCS) Scheme, operating since 2011, reflects how the constructional steels industry supports the intent of these goals. Steel, indefinitely recyclable, lends itself well to SDG #12 - Responsible Production and Consumption, within a circular economy. Over time we will work to align the Scheme to the relevant SDG's.

The challenges and opportunities of sustainable development support the need for greater collaboration and CARES is pleased to contribute to this dialogue, listening to feedback, responding to market needs and improving the scheme.

In 2017, CARES presentations have been well received at the Life-Cycle Management Conference, the 7th International conference of the Asian Concrete Federation and the 6th International Iron & Steel Symposium. CARES supported the development of the CIRIA Guide to Responsible sourcing - A handbook for the construction industry, as well as the Action Program for Responsible and Ethical Sourcing (APRES). We continue to track and support the implementation of the new BES 6002 Ethical Labour Standard. In December 2016, the UK Government issued its Procurement Policy Note PPN 11/16, which emphasises the need for social and environmental factors to be considered alongside cost when procuring steel for public sector projects in the UK. The CARES SCS Scheme is aligned to this guidance.

Since the last report, UKAS has reconfirmed our accreditation to BS 8902 Responsible Sourcing Sector Certification Schemes for Construction Products and BES 6001 The Framework Standard for Responsible Sourcing. By mid-October 2017, CARES, a BRE licensee for this standard, had provided 87% of total certifications for reinforcement and 61% for steel. SCS certification can contribute towards higher levels of green building rating system performance, including within BREEAM UK New Construction 2014 and ESTIDAMA. Company-specific verified Environmental Product Declarations (EPDs) to EN 15804, which are a requirement of the scheme, are accepted in the US Green Building Council's LEED certification. The EPDs also meet client demands for detailed information on the materials they specify.

Our list of approved suppliers is growing, recognising our professionalism and ability to give clients confidence that their choice of materials is supporting more resource efficient, socially responsible construction. I welcome readers to this report and invite you to explore the CARES Sustainable Constructional Steel Scheme and its performance.

Professor Les Clark, OBE
Chairman of CARES



Locations of CARES sustainability scheme-approved suppliers

CARES has global reach. The SCS Scheme is internationally recognised as the preferred certification system for sustainable constructional steel. CARES-approved suppliers benefit from the wide acceptance of CARES-approved steel by green building rating systems around the world.

Which suppliers are CARES-approved and where are they?

France

- ALPA, *Gargenville*

Germany

- ArcelorMittal Hamburg GmbH, *Hamburg*

Netherlands

- Van Merksteijn B.V., *Almelo*

Ireland

- Brazil & Co. (Steel) Ltd. T/A Fairyhouse Steel, *Ratoath*
- Midland Steel Reinforcement Supplies, *Mountmellick, Co Laois*

Portugal

- SN Maia - Siderurgia Nacional, S.A., *San Pedro Fins, Maia*
- SN Seixal, Siderurgia Nacional, S.A., *Seixal*

Qatar

- Qatar Steel Company (QSC), *Mesaieed*

Spain

- Megasa Siderúrgica SL, *Naron*
- Megasider Zaragoza, S.A.U., (ArcelorMittal), *Zaragoza*

Turkey

- Ekinciler Iron & Steelworks Inc., *Iskenderun*
- Izmir Demir Celik Sanayi A.S., *Izmir*
- Yazici Iron & Steel Co Inc., *Iskenderun*
- ICDAS Celik Enerji Tersane Ve Ulasim Sanayi A.S., *Biga*
- Diler Iron and Steel Co Inc., *Gebze*
- HABAS A.S., *Izmir*
- Kroman Celik Sanayi A.S., *Gebze*
- Bastug Metalurji Sanayi A.S., *Osmaniye*
- Colakoglu Metalurji A.S., *Gebze*

United Arab Emirates

- Emirates Steel Industries, ICAD I, *Mussaffah, Abu Dhabi*
- Conares Metal Supply Ltd, *Rebar Mill, Dubai*

United Kingdom

- Outokumpu Stainless Ltd. T/A Sheffield Stainless Bar, Long Products, *Sheffield*
- Outokumpu Stainless Ltd. T/A ASR Rod Mill and Sheffield Stainless Bar, Long Products, *Sheffield*
- Hy-Ten Reinforcement Co Ltd, *Chatham*
- Lemon Groundwork Solutions Ltd, *Wickford*
- Capital Reinforcing Ltd, *Bromborough*
- Midland Steel Reinforcement Supplies, *London Thamesport*
- ArcelorMittal Kent Wire Limited, *Chatham*
- ArcelorMittal Kent Wire Limited T/A AMCS, *Chatham*
- Roe Bros & Co Ltd, *Peterborough*
- Thames Reinforcements Ltd, *Sheerness*
- F Brazil Reinforcements Limited, *Canvey Island*

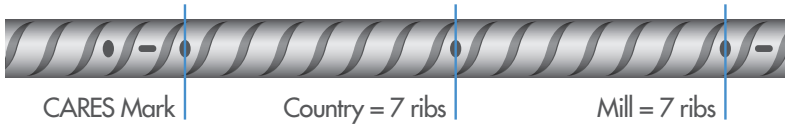
Legend

- Reinforcing Steel Producers
- Feedstock Coil Producer
- Structural Steel Producers
- Stainless Steel Reinforcing Bar Processor
- Flat Steel Producers
- Stainless Steel Reinforcing Bar Producers and Processors
- Reinforcing Steel Processors (Fabricators)

Providing assurance to the construction industry

Traceability through CARES SCS product markings

Product marking



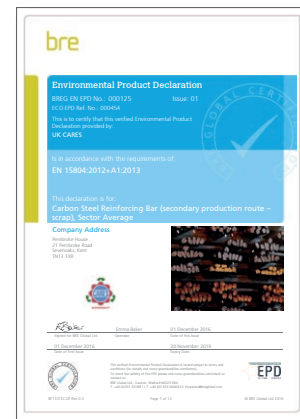
All CARES steels are 100% traceable at a batch and product level to the original steel producer. Traceability starts with a unique cast number. Molten steel is cast, rolled, and then delivered to the fabricator. During cutting or bending the cast number is accompanied by a 'bar schedule reference' and 'bar mark' before delivery and use. Batches of product will carry the labels shown.

Product labelling



Environmental Product Declaration (EPD)

An Environmental Product Declaration (EPD) is a type of Life Cycle Assessment that provides environmental information from LCA studies in a common format, based on common rules. An EPD provides a consistent basis for assessing environmental impacts from extraction of raw materials, through processing, manufacture, refurbishment to eventual end-of-life and disposal. The data, verified by BRE is produced in accordance with ISO 15084. EPDs are required by each supplier and CARES also produces an average for the overall SCS Scheme.

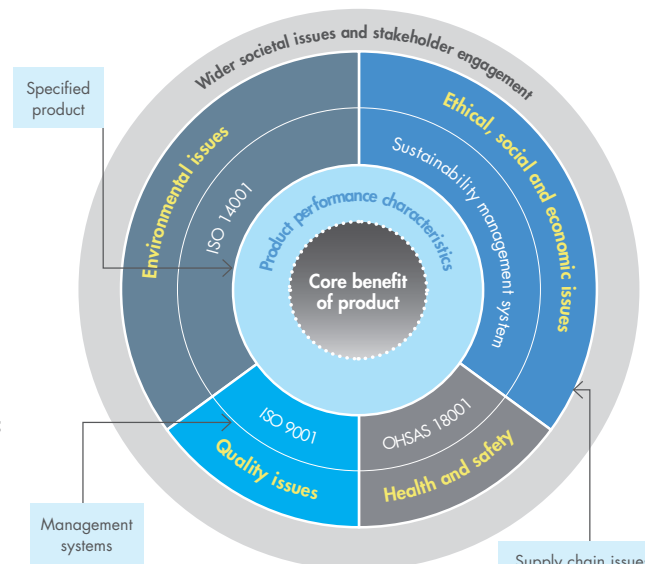


"There is increased interest from stakeholders in the construction industry to understand and document the environmental performance of materials – the first step towards improved material selection and reduced overall project environmental footprint. Within this trend, CARES has set the bar high by developing a detailed environmental product declaration for a key construction material, and has done so while bringing the key stakeholders of the industry together at the same table."

Jamila El Mir, Environment and Sustainability Senior Consultant, Arup

Scheme coverage – the 'extended' product applied to reinforcing steel

The concept of the extended product can be used to illustrate the demands placed upon a modern construction material supply chain, as shown here. CARES Product conformity standards are the basis of assurance for the physical product, which is shown in the centre of the diagram. Clients also want reassurance beyond the physical product, extending their concern into the management of environmental impacts and labour conditions throughout the supply chain. Management systems, as shown further out from the centre in the diagram, are a requirement of the SCS Scheme in order to demonstrate that the range of issues, illustrated in the next concentric circle out, are being continually improved. The final concentric circle reflects stakeholder engagement, the effectiveness of which is also a requirement of the scheme.



Procuring Sustainable Constructional Steel

To procure certified sustainable constructional steel, that conforms to product performance requirements, the following can be included in specifications:

1. UK project specifications

BS 4449:2005 and BS 4483:2005

All **hot rolled and cold worked steel bars** specified shall conform to BS 4449 (Grade B500B or B500C) and shall be cut and bent in accordance with BS 8666. The bars shall be obtained from firms holding valid CARES (or fully equivalent schemes) product conformity and sustainability scheme certificates of approval for the production and supply of the steel reinforcement.

Steel fabric reinforcement shall conform to BS 4483 (Grade B500A, B500B or B500C) and shall be cut and bent in accordance with BS 8666. Steel fabric reinforcement shall have a minimum nominal bar size of 6mm (8mm for Grade B500A). Steel fabric reinforcement shall be delivered to site in flat mats or pre-bent. The steel fabric shall be obtained from firms holding valid CARES (or fully equivalent schemes) product conformity and sustainability scheme certificates of approval for the production and supply of the steel fabric reinforcement.

NOTE: For diameters ≤ 12mm, Grade B500A, Grade B500B or Grade B500C conforming to BS 4449:2005 may be considered. For diameters > 12mm, Grade B500B or Grade B500C conforming to BS 4449:2005 shall be specified.

2. Non-UK project specifications

BS 4449:1997 or 2005 and BS 4483:1998 or 2005

All **hot rolled and cold worked steel bars** specified shall conform to BS 4449 [1997 or 2005] (Grade 460A or 460B or B500A, B500B or B500C) and shall be cut and bent in accordance with BS 8666. The bars shall be obtained from firms holding valid CARES (or fully equivalent schemes) product conformity and sustainability scheme certificates of approval for the production and supply of the steel reinforcement.

Steel fabric reinforcement shall conform to BS 4483 [1998 or 2005] (BS 4482:1985 Type 1 or Type 2, BS 4449:1997 460A, 460B or B500A, B500B or B500C) and shall be cut and bent in accordance with BS 8666. [Steel fabric reinforcement to BS 4483: 2005 shall have a minimum nominal bar size of 6mm (8mm for Grade B500A)]. Steel fabric reinforcement shall be delivered to site in flat mats or pre-bent. The steel fabric shall be obtained from firms holding valid CARES (or fully equivalent schemes) product conformity and sustainability scheme certificates of approval for the production and supply of the steel fabric reinforcement.

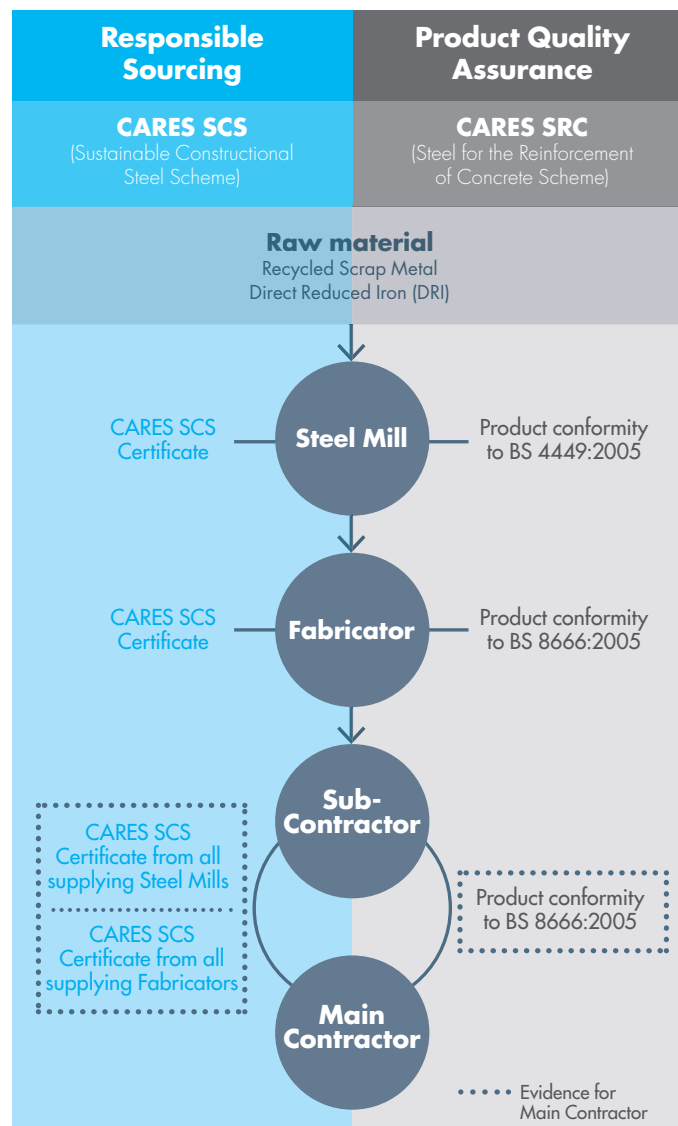
3. Stainless steel

All **stainless steel bars** specified shall conform to BS 6744 (specify the grade and alloy) and shall be cut and bent in accordance with BS 8666. The bars shall be obtained from firms holding valid CARES (or fully equivalent schemes) product conformity and sustainability scheme certificates of approval for the production and supply of the steel reinforcement.

What to look for when checking compliance with CARES SCS

Procurement professionals should look for the following items, as shown on the graphic, when checking for compliance to CARES SCS Scheme:

- Producer's CARES SCS certificate
- Processor's CARES SCS certificate
- Producer's Environmental Product Declaration (EPD)



Summary performance

The following table summarises performance for 2015 and 2016 against key scheme metrics. It includes approved producers using recycled steel in the Electric Arc Furness process. It excludes those which use Direct Reduced Iron process, rolling mills and fabricators. It includes new targets to 2020 set from a 2015 baseline.

Aspect	Key Metrics	2015	2016	Target 2020	Status and notes
Environment	Employees at ISO 14001 certificated sites (%)	98	98	100%	No change
	Material Efficiency - % for producer (tonnes billet, bloom or slab produced as % of total raw materials)	82.9	83.1	Increase 2%	On track
	Global Warming Potential (Kg CO ₂ e per tonne of carbon steel bar produced) ¹	1342	1342	Decrease 2.5%	No change ²
	Water Use m ³ per tonne of steel	1.01	0.93	Reduce 10%	On track
	Post-consumer steel scrap recycled in approved product (% by mass) ³	96.9	98.1	Increase 1.4%	On track
	Waste to landfill (Kg per tonne of steel)	58	43	Reduce 60% to 19	On track
	Waste to incineration (Kg per tonne of steel)	0.46	0.04	Zero waste to incineration	On track
Health and Safety	Employees at OHSAS 18001 or ISO 45001 certificated sites (%)	97	100	100%	Achieved
Ethical, Social, and Economic	Total number of environmental and social complaints resulted in a successful prosecution by an external Regulator in the data collection/reporting period ⁴	0	1	Maintain 0	Not achieved
	Skills and Training (Development of Employees) (Number of training hours per employee and contractor) ⁵	27	22	Increase by 5%	Decreased
	Community Relations - Approved producers who have a policy in place to increase engagement with community stakeholders (%)	100	100	Maintain	Achieved
	Community Relations - Approved producers who have specific systems in place to deal with local community complaints (%)	100	100	Maintain	Achieved
	Approved producers who have externally audited accounts for the latest financial reporting period (%)	100	100	Maintain	Achieved
	Approved producers who implement a policy to comply with ethical business practices (%)	100	100	Maintain	Achieved
	Suppliers evaluated against responsible sourcing policy and the social and environmental issues listed in CARES SCS Applicable Appendix's Section 3. (vi) (%)	n/a	6.25	75%	On track
	Reporting Sustainability Performance to Stakeholders - Publication of CSR/Sustainability Report on yearly basis (%)	n/a	12.5	100%	Previously voluntary credit. On track

An 'Approved' product or 'approved' suppliers refer to product and suppliers approved under the CARES SCS Scheme.

¹ Relating to direct, indirect and avoided scrap burden. Scrap burdens - the world steel industry follows the 'substitution/avoided burden' approach to recycling at end-of-life, and assigns environmental impacts to ferrous scrap. Consuming scrap increases GHG emissions. Producing scrap (for recycling) gives a credit, reducing the overall carbon footprint. In this assessment it is assumed that the recycling rate at end of life is 92%.

² This figure comes from CARES Sector Average EPD report which is updated every 3 years, with the next update due in 2019.

³ Data excludes stainless steel production.

⁴ This includes a financial penalty, an enforcement notice, a prohibition notice, and/or a prosecution.

⁵ Last year's report indicated that in 2015, 47 hours of training were completed. This figure has been restated to exclude 1 producer which had introduced a new Electric Arc Furnace and as a consequence had an unusually high number of training hours which skewed the data.

YOUR ASSURED STEEL PRODUCTS SUPPLY CHAIN



BETTER FOR CUSTOMERS

**Product
Quality
certification**

**Full traceability
from mill to site
delivery**

**Sustainable
Constructional
Steel certification**

**Attract rating
credits in
BREAM
UK New
Construction**

TRUST THE CARES MARK: NO FURTHER TESTING REQUIRED



This image shows how the CARES mark identifies a specific mill in a specific country.

Tell us what you think

This is our sixth report where we seek to capture how the CARES Sustainable Constructional Steel supply chain impacts on the environment, society and the economy. We welcome your feedback.

CARES

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