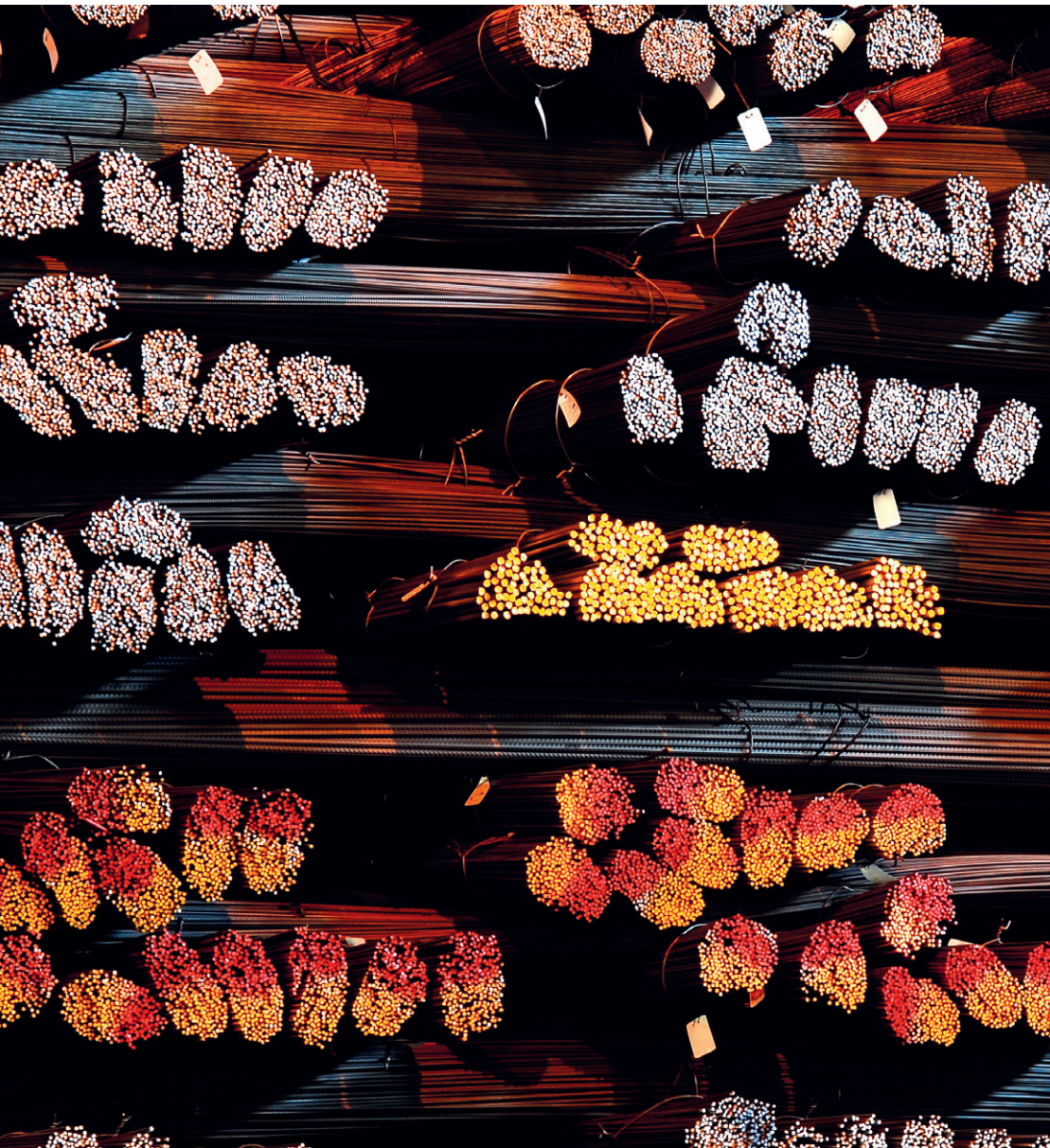


YOUR ASSURED STEEL PRODUCTS SUPPLY CHAIN



The CARES Sustainable Constructional Steel Scheme Summary Report 2015/16



PERFORMANCE

See the latest data showing the impact of the scheme

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 Provide assurance to the construction industry
- 06 Your procurement guide: how to specify sustainable constructional steel
- 07 Summary performance: Environmental, Economic and Social

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 expert.

About this report

This report focuses on the latest updates and performance of the CARES' Sustainable Constructional Steel (SCS) Scheme. The data covers calendar year 2015 and updates include 2016. 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 of the Global Reporting Initiative (GRI) inform the report's development. 2011 is the 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 a number of key performance indicators. It also sets targets for the future.

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.



SUSTAINABILITY



002

Executive statement: Confidence building

Steel is central to our infrastructure and built environment. Used unseen in foundations, reinforced concrete and in the structures of buildings and infrastructure, as well as visibly to create some of the most striking and innovative architectural marvels of our age, Steel has a remarkable story to tell and is central to our modern lives.

This story extends right back to its source materials – mined ore and increasingly from scrap steel. Recyclable indefinitely, Steel has a key role in the developing circular economy. The story is also one that encompasses the people who make the Steel and the conditions that they work in, the contributions the industry makes to global and local economies and its impact on the environment.

The CARES Sustainable Constructional Steels (SCS) Scheme helps enable part of this story to be told. It helps provide confidence to decision makers when procuring materials for infrastructure and construction projects that they have been responsibly sourced. It enables each stage of the process to be traced, from the producer to the construction site and provides a focus for performance management.

Core to our commitment to sustainability in construction is the CARES SCS Scheme. Its rigour, integrity and quality underpin its market position and reputation. The challenges and opportunities of sustainable development support the need for greater collaboration and CARES is pleased to contribute to this dialogue and to make changes, listening to feedback, responding to market needs and improving the scheme.

2016 brought the introduction of the CARES Rosette Rating System enabling producers and fabricators to get credit for going beyond mandatory scheme requirements. This opportunity to differentiate also helps recognise companies who are innovating and setting the bar higher.

In March, CARES became a BRE licensee to provide certification to the BES 6001 Responsible Sourcing standard and became accredited by UKAS to provide this certification in July. Procedural enhancements mean producers and fabricators can now follow a combined certification process together with the SCS Scheme.

We have welcomed the opportunity to engage with others across the constructional steel value chain and are pleased to have been involved in discussions and forums seeking to improve and scale up the adoption of responsible business practices including through the development of BRE's new ethical labour standard BES 6002.

Our accreditation by UKAS to BS 8902 Responsible Sourcing sector certification schemes for construction products, helps meet customer expectations of quality, risk reduction, resource efficiency as well as for good labour conditions, community engagement and business ethics. 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 (EPD's) to EN 15804, which are a requirement of the scheme, are accepted in the US Green Building Council's LEED certification. The EPD's 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 in more detail 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*

Ireland

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

Luxembourg

- ArcelorMittal Rodange and Schifflange, *Rodange and Schifflange*

Portugal

- SN Maia - Siderurgia Nacional, S.A., *Maia*
- SN Seixal - Siderurgia Nacional, S.A., *Seixal*

Qatar

- Qatar Steel Company (QSC), *Mesaieed*

Spain

- ArcelorMittal Gipuzkoa S.L.U. Factory of Zumarraga, *Zumarraga*
- Megasa Siderúrgica SL, *Naron*
- ArcelorMittal Zaragoza, S.A., *Zaragoza*

Turkey

- Yesilyurt Demir Celik, *Samsun*
- 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*
- HABAS A.S., *Izmir*
- Diler Iron and Steel Co Inc., *Gebze*
- 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

- Hy-Ten Reinforcement Co Ltd., *Chatham*
- Lemon Groundwork Solutions Ltd., *Wickford*
- Capital Reinforcing Ltd., *Bromborough*
- Midland Steel Reinforcement Supplies UK, *London*
- ArcelorMittal Kent Wire Ltd., *Chatham*
- ArcelorMittal Kent Wire Ltd. T/A AMCS, *Chatham*
- Roe Bros & Co Ltd., *Peterborough*
- Thames Reinforcements Ltd., *Sheerness*
- F Brazil Reinforcements Ltd., *Canvey Island*
- 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*

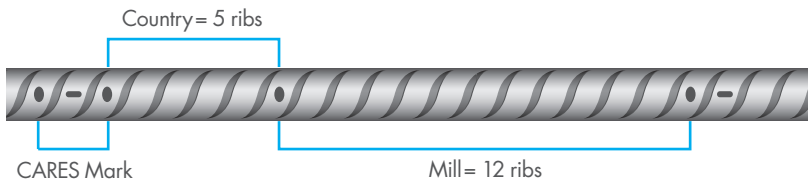
Legend

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

Provide 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 particular type of Life Cycle Assessment that provides environmental information from LCA studies in a common format, based on common rules. If you have an EPD then you can refer to data relating to 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 standards. So, overall, it provides strong evidence for demonstrating compliance with some of the requirements of the CARES SCS Scheme. A CARES EPD provides confidence to construction clients and a consistent basis for assessment, for example, of the global warming potential of production of steel products.

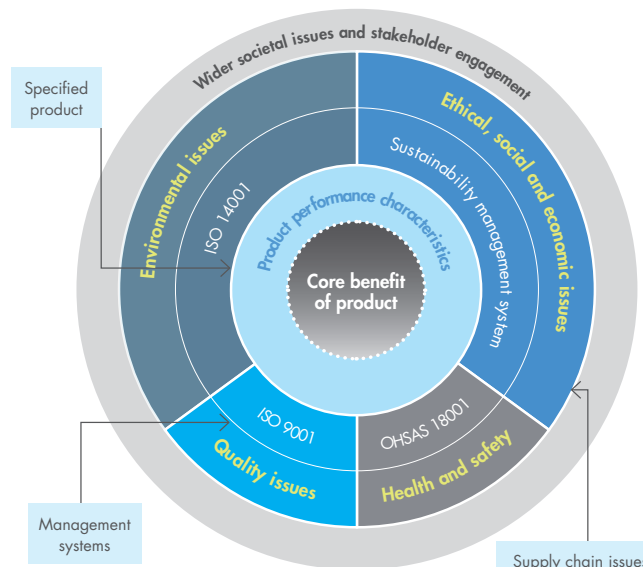


"There is increased interest from stakeholders in the construction industry to understand and document the environmental performance of materials – the first step towards improved material selection and reduced overall project environmental footprint. Within this trend, CARES has set the bar high by 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.



Your procurement guide

To procure certified sustainable constructional steel, that conforms to product performance requirements, purchasers can include the following in their specification:

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.

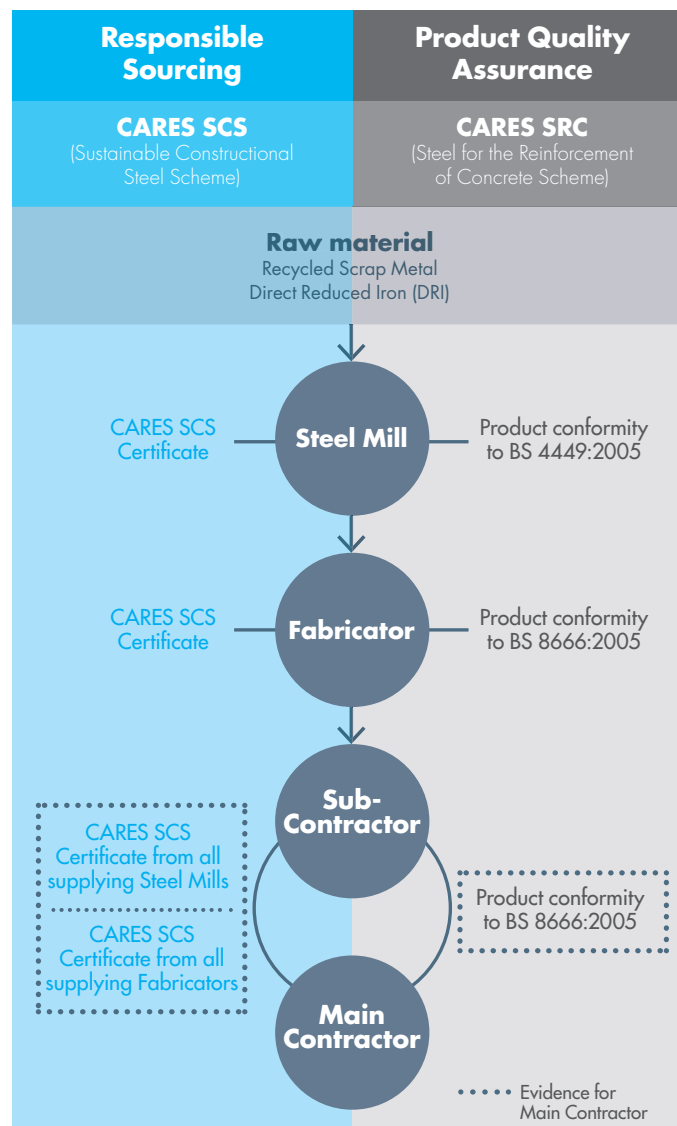
3. Stainless steel

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) – see page 05.



Summary performance

The following table summarises performance from 2011 to 2015 against a selection of key metrics for producers which use recycled steel in production. It excludes those which use DRI and rolling mills. It includes performance against 2015 targets, set on the basis of a 2011 baseline. More performance information, including new targets out to 2020 will be published on our website early in 2017.

Impact area	Key metrics	2011	2012	2013	2014	2015	Target 2015 ¹	Status and notes
Greenhouse gas emissions	Global Warming Potential ² (Tonnes CO ₂ e per tonne of carbon steel bar produced) ³	N/A	1.3	N/A	N/A	1.3	Reduce by 2.5%	Not Achieved
Environmental management	Employees at ISO 14001 certificated or equivalent sites (% of total employees of steel producer)	96	100	99	98	98	100%	Not Achieved (permanent contractors not covered by ISO 14001 at one site)
Materials efficiency	Tonnes of steel billet as percentage of tonnes of raw materials used (%)	82	82	82	82	83	No target set	–
	Post-consumer steel scrap in approved product (% by mass)	97	97	96	98	97	Maintain 97%	Achieved
Waste	Approved suppliers with Waste Management Plan in place (%)	100	100	100	100	100	Maintain 100%	Achieved
	Waste sent to landfill per tonne of finished product (kg)	95	86	82	77	58	No target set	–
	Waste incinerated per tonne of finished product (kg)	8	3	0.12	0.19	0.46	No target set	–
	Waste recycled per tonne of finished product (kg per tonne of rolled steel billet)	175	164	158	149	97	Increase by 5%	Not Achieved (better quality raw materials and improved yield mean less material available for recycling)
Water	Water consumption per tonne of finished product (m ³)	1.10	1.00	1.10	1.02	1.01	Reduce by 5%	Achieved
Biodiversity and Eco-toxicity	Approved manufacturers who monitor and report on their biodiversity impacts (%)	71	100	100	100	100	100%	Achieved
	Environmental incidents that resulted in a enforcement order or a penalty at an approved manufacturer site (number)	1	0	2	0	0	0	Achieved
Health & safety management	Employees at OHSAS 18001 certificated sites (%)	89	100	99	98	97	100%	Not Achieved (permanent contractors not covered by OHSAS 18001 at two sites)
	Companies operating a system to ensure workers conditions are safe and healthy (%)	100	100	100	100	100	Maintain 100%	Achieved
Training	Average training per employee (Total company training hours/total number of employees)	24	28	24	25	47	Increase by 5 %	Achieved
Human Rights	Compliance with applicable laws and industry standards on fair wages, working hours, and public holidays (% of approved companies)	100	100	100	100	100	Maintain 100%	Achieved
Community Relations	Approved producers who have a policy in place to increase engagement with community stakeholders (%)	93	100	100	100	100	100%	Achieved
	Approved producers who have specific systems in place to deal with local community complaints (%)	93	100	100	100	100	100%	Achieved
Finance	Approved producers who have externally audited accounts for the latest financial reporting period (%)	100	100	100	100	100	Maintain 100%	Achieved
Business Ethics	Approved producers who implement a policy to comply with ethical business practices (%)	79	100	100	100	100	100%	Achieved

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

¹ The targets relate to an improvement from the baseline year of 2011.

² 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%.

³ Based on Electric Arc Furnace (EAF) route which uses recycled steel.

YOUR ASSURED STEEL PRODUCTS SUPPLY CHAIN



BETTER FOR CUSTOMERS

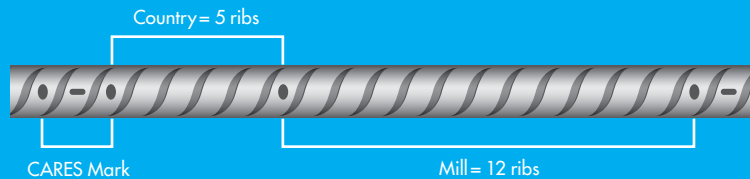
**Product
Quality
certification**

**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 fifth 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

Pembroke House
21 Pembroke Road
Sevenoaks
Kent TN13 1XR

Tel: + 44 1732 450000

leebrankley@ukcares.com
ayhantugrul@ukcares.com
ladincamci@ukcares.com

ukcares.com



When you have finished with this report please recycle it

Independent, impartial and trusted
ukcares.com