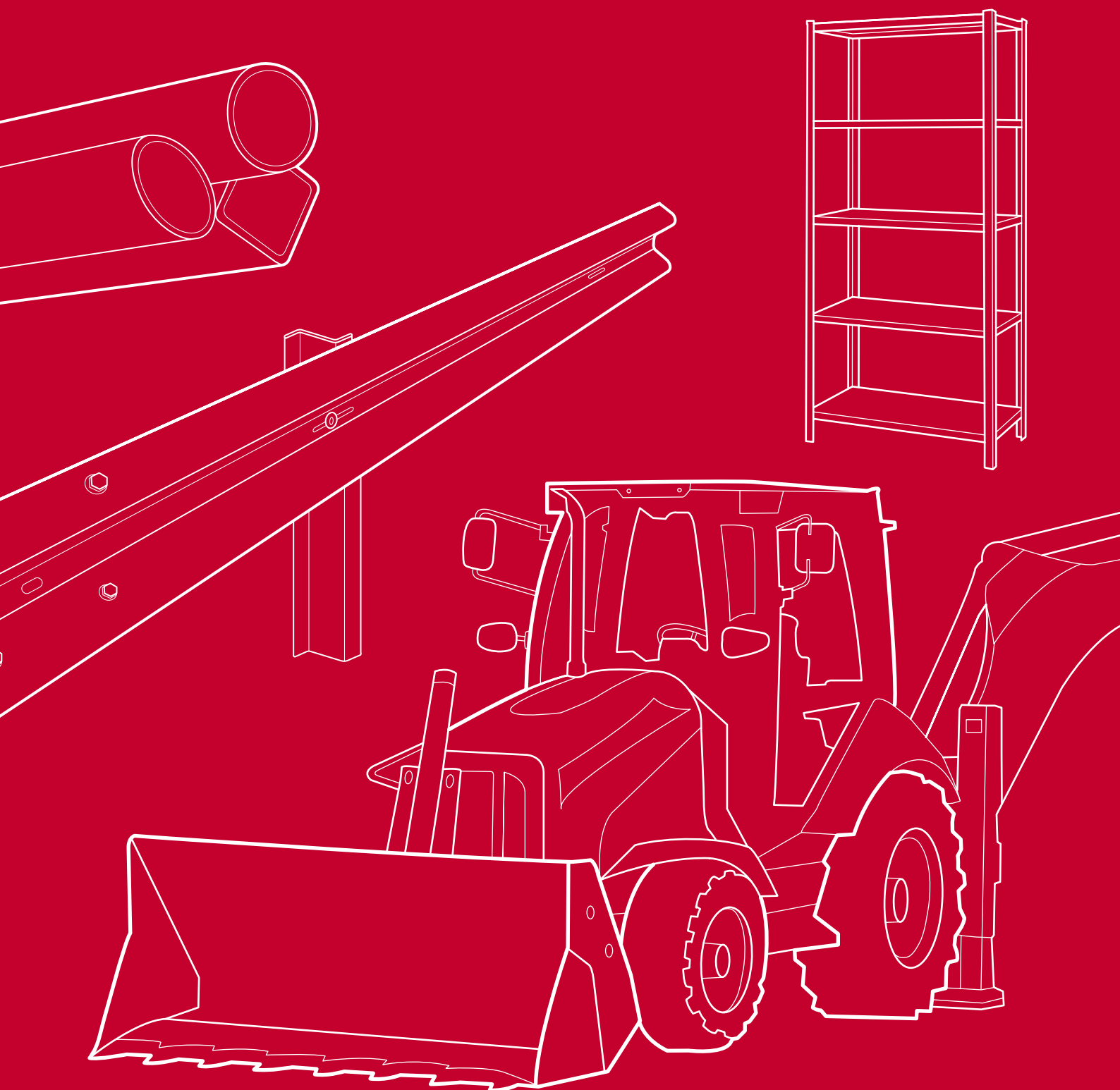


Corus Strip Products UK

European structural steel standard EN 10025-2 : 2004

Grade designations, properties and nearest equivalents



General

EN 10025 : 2004 is the new six-part European standard for hot-rolled structural steel.

The information here covers the steels in part 2 of that standard, which are grades manufactured by Corus Strip Products UK.

The new standard designates grades differently from the previous standards for these steels.

This leaflet shows the grades and their mechanical properties from the new standard together with the nearest equivalent grades from former standards. It also contains advice about specifying these steels when ordering.

Details of the dimensional range are available from Corus.

The parts of the new standard

The standard is published in the six parts shown below. It combines what were formerly separate standards into one new standard for the majority of hot-rolled structural steel products.

Part 1 – *General technical delivery conditions*

Part 2 – *Technical delivery conditions for non-alloy structural steels*

Supersedes EN 10025 : 1993

Part 3 – *Technical delivery conditions for normalised/normalised rolled weldable fine grain structural steels*
Supersedes EN 10113 : parts 1 & 2 : 1993

Part 4 – *Technical delivery conditions for thermomechanical rolled weldable fine grain structural steels*
Supersedes EN 10113 : parts 1 & 3 : 1993

Part 5 – *Technical delivery conditions for structural steels with improved atmospheric corrosion resistance (also known as weathering steels)*
Supersedes EN 10155 : 1993

Part 6 – *Technical delivery conditions for flat products of high yield strength structural steels in the quenched and tempered condition*
Supersedes EN 10137 : parts 1 & 2 : 1996

Grade designation systems

The designation systems used in the new standard are similar but not identical to those used in EN 10025 : 1993. The symbols and the properties they designate are shown in table 1 below. The table includes examples that demonstrate the use of the symbols within the new designations.

Mechanical properties and equivalent grades

Table 2 opposite shows the grades and their mechanical properties for part 2 of the new standard, together with the nearest equivalent grades from the superseded standards.

Table 1: Symbols used in EN 10025-2 : 2004 : Non-alloy structural steels

Symbol	Example	Property designated
S	S185	Structural steel
E	E295	Engineering steel
360	E360	Minimum yield strength (R_{eH}) in MPa at 16mm
JR	S235JR	Longitudinal Charpy V-notch impacts 27J at +20°C
J0	S275J0	Longitudinal Charpy V-notch impacts 27J at 0°C
J2	S355J2	Longitudinal Charpy V-notch impacts 27J at -20°C
K2	S355K2	Longitudinal Charpy V-notch impacts 40J at -20°C
+AR	S235JR+AR	Supply condition as rolled
+N	S275J0+N	Supply condition normalised or normalised rolled
Customer options		
C	S235C	Grade suitable for cold forming

Note: Text highlighted in red shows the symbols as they are used in examples of grades from the new standard.

Ordering with the new standard

When ordering, please include the following information.

The standard

Include the part number, e.g. EN 10025-2 : 2004.

Steel grade

Use the new designations.

Nominal dimensions

Include any agreed special tolerances.

Options

Consult EN 10025-1 (section 13) and EN 10025-2 (section 13) for details of options.

If options are not specified when ordering, Corus will supply the basic specification.

Advice

Advice about the new standard is available from Customer Technical Services, whose details appear on the back cover of this leaflet.

Copies of this leaflet are available from our web site at:
www.corusgroup.com/striproductsuk

Table 2: EN 10025-2 : 2004 : Non-alloy structural steels : Grades, mechanical properties and nearest equivalent grades

EN 10025-2 : 2004					EN 10025 : 1993	BS 4360 : 1990
Grade	Strength at t=16mm (MPa)		Longitudinal Charpy V-notch		Nearest equivalent grade	Nearest equivalent grade
	Min yield (R _{eH})	Tensile (R _m)	Temp (°C)	Energy (J) t=16mm		
S185	185	290/510	–	–	S185	–
– ¹	–	–	–	–	S235	40A
S235JR ²	235	360/510	20	27	S235JRG1/G2	40B
S235J0	235	360/510	0	27	S235J0	40C
S235J2	235	360/510	-20	27	S235J2G3/G4	40D
– ¹	–	–	–	–	S275	43A
S275JR ²	275	410/560	20	27	S275JR	43B
S275J0	275	410/560	0	27	S275J0	43C
S275J2	275	410/560	-20	27	S275J2G3/G4	43D
– ¹	–	–	–	–	S355	50A
S355JR ²	355	470/630	20	27	S355JR	50B
S355J0	355	470/630	0	27	S355J0	50C
S355J2	355	470/630	-20	27	S355J2G3/G4	50D
S355K2	355	470/630	-20	40	S355K2G3/G4	50DD
E295	295	470/610	–	–	E295	–
E335	335	570/710	–	–	E335	–
E360	360	670/830	–	–	E360	–

Notes:

1. This grade has been removed from the standard because it does not offer a guaranteed minimum impact performance, which is required by the EU Construction Products Directive (CPD 89/106/EC). The lowest grade offered is the JR version for each yield strength variation.
2. Corus will only verify the specified impact value for this grade if asked to do so at the time of the enquiry and the order.
3. 1 MPa=1 N/mm².

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Care has been taken to ensure that this information is accurate, but Corus Group plc, including its subsidiaries, does not accept responsibility or liability for errors or information which is found to be misleading.

Corus has a policy of continuous improvement, and as such the information in this document may be subject to change. The latest information is available from the addresses below.

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