

BlueScope Steel’s technical experts are available to all customers to address any questions about the manufacture, specification, testing and appropriate use of XLERPLATE® steel and XLERPLATE LITE™ steel. Some of our frequently asked questions are detailed below.

Frequently Asked Questions

Availability

What XLERPLATE® steel sizes are available from BlueScope Steel?

For the most up-to-date information refer to [XLERPLATE® Size Schedules](http://www.xlerplate.com.au) at www.xlerplate.com.au

What restricts the availability of various sizes of XLERPLATE® steel?

There are a large number of variables that may restrict the availability of specific sizes of XLERPLATE® steel. These include: product Standard restrictions, mill rolling rules and physical limits, metallurgical rules for mechanical property development, and grade rationalisation. If the actual size you require does not appear to be available please contact your XLERPLATE® steel distributor or email xlerplate@bluescopesteel.com

Grade Equivalents

When product is supplied and certified by BlueScope Steel to a particular grade and Standard, will it comply with some other Standard?

The material supplied by BlueScope Steel is certified to the grade originally ordered. Because not all XLERPLATE® steel or XLERPLATE LITE™ steels within a batch are individually tested, the specific properties for any particular plate are not known, and they can therefore not be reapplied to another Standard or grade. Where this situation arises, contact XLERPLATE® Customer Service on 1300 135 004. The customer service team will be able to assist in determining what product has been individually tested within a given batch. Product that has been tested may be reapplied, PROVIDED the test results comfortably meet ALL the requirements of the new grade or Standard. Product that was not individually tested must be tested to the requirements of the new grade or Standard.

Why do similar steel grades from different countries or manufacturers have different names or representations?

This is largely because they have been derived or originated in countries with different approaches to the naming system. Generally when there are a number of grades within a Standard they are grouped and listed sequentially with some regard to either the chemistry (eg. K1010, K1020) or the strength (eg. 250, 350).

I have a design which specifies material which is manufactured to an International Standard. Can the equivalent product be manufactured in Australia?

BlueScope Steel may be able to supply the International Standard, but it will depend on the order quantity required. For some specifications where the chemical composition of the overseas grade cannot be married in with a grade regularly produced in Australia, the minimum manufacturing quantity may be as much as 500 tonnes. For this reason, an equivalent Australian grade (that has similar mechanical properties) may be a suitable alternative. Contact XLERPLATE® steel Customer Service on 1300 135 004 to discuss your needs.

Steel Properties

How does the strength of steel vary with increasing temperature?

For most plain carbon manganese steels the yield strength decreases approximately linearly with increasing temperature at the rate of around 0.1% of room temperature strength per 1°C increase in temperature. This means that most steels have about 50% of their room temperature strength at 500°C. Above this temperature, the rate of softening increases more rapidly. Also other factors such as creep and oxidation become important at higher temperatures and can further increase the rate of softening. For these reasons, plain carbon steels are not generally suitable for applications above 450°C.

Frequently Asked Questions

XLERPLATE LITE™

About XLERPLATE LITE™ steel

XLERPLATE LITE™ steel is BlueScope Steel's brand name for coil plate. XLERPLATE LITE™ steel offers the advantages of short lead times, wide product range, consistent quality and the technical and in-market support you would expect from BlueScope Steel. It is produced on either the Western Port or Port Kembla Steelworks hot strip mills as hot rolled coil to meet the requirements of the AS/NZS 1594 Standard. The hot rolled coil is then cut to length at a coil processing facility to form the XLERPLATE LITE™ steel product.

What products/grades are available as XLERPLATE LITE™ steel?

XLERPLATE LITE™ steel is available in a wide range of grades from structural steel grades such as HA200, HA250, HA300, HA350 and HA400; to the commercial formable steel grade HA1; as well as a range of Analysis grades such as HA1006, HA1016, K1042 and XK15B28. XLERPLATE LITE™ steel is available in thicknesses from 3mm to 12mm and widths of 900mm to 1800mm wide. However, not all grades are available in all thickness and width combinations. For advice on availability please contact XLERPLATE® steel Customer Service on 1300 135 004. XLERPLATE LITE™ steel floorplate is also available in thicknesses from 2.1mm to 8mm. XLERPLATE LITE™ steel is available in lengths from 2400mm to 9000mm, however lengths outside this range may be available on enquiry, again please contact XLERPLATE® Customer Service to discuss your needs.

What is the difference between XLERPLATE® steel and XLERPLATE LITE™ steel?

XLERPLATE® steel is the brand name for our range of products rolled on the plate mill at Port Kembla Steelworks, while XLERPLATE LITE™ steel is the brand name for the range of products rolled on either of BlueScope Steel's two hot strip mills. XLERPLATE® steel products are generally rolled to either the AS/NZS 3678 (structural and analysis grades) or AS 1548 Standards (pressure vessel grades), while XLERPLATE LITE™ steel products are rolled to the AS/NZS 1594 Standard.

The two different types of rolling mills (plate mill for XLERPLATE® steel and hot strip mills for XLERPLATE LITE™ steel) produce products with different characteristics. XLERPLATE LITE™ steel products offer the advantages of low silicon levels for laser cutting and galvanizing, thinner and more tightly adherent mill scale advantageous for laser cutting and the availability of lighter gauges. In comparison, XLERPLATE® steel grades offer the advantage of larger plate sizes in heavier gauges and may have less residual stress when processed than XLERPLATE LITE™ steel products. The difference in residual stress levels is because XLERPLATE® steel products are rolled and processed flat, while XLERPLATE LITE™ steel products are coiled and then subsequently uncoiled during the plate processing stage to produce coil plate. Also note that different tolerances apply to the XLERPLATE® steel and XLERPLATE LITE™ steel products. Further information may be obtained from Technical Services on 1800 800 789.

What is the difference between Grade 250 and HA250?

Grade 250 is a common term generally referring to AS/NZS 3678-250. Where possible the full name: AS/NZS 3678-250 should be used to avoid confusion. The two grades, AS/NZS 3678-250 and AS/NZS 1594-HA250, are produced on two different rolling mills that give each grade different characteristics. The AS/NZS 3678, 250 grade is produced on a plate mill and is available in thicknesses from 5mm to 150mm, widths 1200mm to 3200mm and lengths up to 18.3m long. By contrast the AS/NZS 1594-HA250 grade is available in thicknesses 3mm to 12mm, widths of 900mm to 1800mm and lengths of 2.4m to 9m.¹

In general the AS/NZS 1594-HA250 grade is lower in price and offers the advantages of lower silicon levels (improved laser cutting and improved appearance of galvanized coatings), thinner and more adherent mill scale and tighter dimensional tolerances. AS/NZS 3678-250, on the other hand, offers advantages of larger plate sizes, the availability of heavier gauges and less residual stress in the plate. In some circumstances the higher silicon level of the AS/NZS 3678-250 grade can be an advantage during galvanizing as it may result in higher zinc coating mass, providing increased corrosion protection.

¹ Note: not all width and thickness combinations are available. Some products outside these restrictions may be available by enquiry – contact BlueScope Steel Customer Services on 1300 135 004.

Frequently Asked Questions

Floorplate/Checker Plate

Is floorplate and checker plate the same thing?

Yes, XLERPLATE® steel floorplate is sometimes referred to as 'checker plate'. It is structural steel plate with a raised pattern, often used for industrial flooring. The product can be sourced from XLERPLATE® steel floorplate or XLERPLATE LITE™ steel floorplate in a wide range of thicknesses.

Heat Treatment Processing

What is meant by normalised XLERPLATE® steel? Why specify normalised XLERPLATE® steel?

Normalising is a heat treatment process that refines the grain size of XLERPLATE® steel. The plate is put into a furnace and heated to a particular temperature. At this temperature a transformation takes place in the metallurgical structure of the steel. When subsequently cooled to room temperature, numerous new steel grains are formed that produce the desired fine-grained homogeneous structure. Care is required in the normalising process to ensure the correct temperature control, as well as heating and cooling rates which are achieved in order to ensure the correct properties are obtained.

The resulting fine grained structures improve both the strength and toughness of steel products.

For more details on heat treatment processing, refer to the [Technical Support/Tech Talk](#) section of www.xlerplate.com.au

Testing and Certification

How do I know if the XLERPLATE® steel product I have received is the material which was used as the basis for batch testing product?

The material identification (XLERPLATE® steel serial number) of the particular material unit tested is noted on the test certificate. Check if the XLERPLATE® steel serial number you have received corresponds with that shown on the test certificate as the tested unit. If there is no corresponding serial number, contact your distributor or BlueScope Steel Direct on 1800 800 789 to obtain the correct test certificate.

Ultrasonic Testing

Can I order an XLERPLATE® steel product which has been ultrasonically tested at the Plate Mill? If so, what Standard should I specify?

Only material which is rolled on the plate mill can be ultrasonically tested. Therefore, XLERPLATE LITE™ steel cannot be ultrasonically tested as it originates from the hot strip mill.

Ultrasonic testing must be specified at the time of order. Ultrasonic testing is generally carried out to AS 1710, but testing to International Standards may be done on request.

When should I order ultrasonically tested XLERPLATE® steel product?

AS 4100 and AS 1554 Standards provide the guidelines for when ultrasonic testing should be specified. As a general rule, whenever the final product or application is of a critical nature, eg. there may be fatigue or heavy machining to be carried out; or where welds are subject to final ultrasonic inspection; the parent plate should be ordered with ultrasonic testing. AS1710 Level 2 is the most commonly specified Standard. Whilst all care is taken during manufacturing, unless the XLERPLATE® steel has been ordered ultrasonically tested, there is no guarantee that it will meet the requirements of AS 1710, if subsequently tested. It is the customers' responsibility to specify ultrasonic testing and the level required, based on their knowledge of the XLERPLATE® steel's end use application and final weld ultrasonic testing requirements.

Frequently Asked Questions

Weather Resistant Steels

Can I treat the surface of weather resistant steels to hasten the weathering process, and how do I maintain the surface colour?

Weathering steel grades include XLERPLATE® steel AS/NZS 3678 - WR350 and XLERPLATE LITE™ steel AS/NZS 1594 - HW350.

BlueScope Steel does not recommend applying chemicals to hasten the weathering process and application of acid may pit the steel.

During normal conditions, the steel 'weathers' to an orange/brown patina. To maintain this patina, a clear lacquer can be applied but the coating must be maintained.

For more advice on weathering steel contact BlueScope Steel Direct on 1800 800 789.

Who to Call

What should I do if I have questions regarding the XLERPLATE® steel product supplied by BlueScope Steel?

In the first instance, contact the distributor that supplied the material. They will then contact the appropriate BlueScope Steel state sales office. Make sure you provide all details of the material eg. serial number, dimensions, grade and your questions regarding XLERPLATE® steel to your distributor.

BlueScope Steel will contact you via your distributor to assess the situation. They may also arrange for works-based Customer Technical Service personnel to contact you and discuss your questions.

BLUESCOPE STEEL DIRECT

For general enquires:

Free call 1800 800 789

Fax 1800 800 744

XLERPLATE® CUSTOMER SERVICE

For order management enquires:

Free call 1300 135 004

Fax 1300 135 003

Email xlerplate@bluescopesteel.com

For further information refer to the [Technical Support](#) section at www.xlerplate.com.au