# AS/NZS 3678 - Lasercut 250 XLERPLATE® steel

Revision 2 January 2015

This literature supersedes all previous issues

**Plate - PL** **Structural - S**

## GENERAL DESCRIPTION

A medium strength structural steel plate product with nominal yield strength of 250 MPa designed specifically for laser cutting

## AUSTRALIAN STANDARDS

AS/NZS 3678: 2011
AS/NZS 1365: 1996

## TYPICAL USES

- Components
- Structural fabrication
- Laser profiling

## FEATURES & BENEFITS

- Low silicon plate steel designed for laser cutting
- Certified to AS/NZS 3678-250
- ACRS accreditation (ACRS Certificate No. 120802)

## WARNINGS

- This material is produced on a Plate Mill and the surface quality requirements comply with the AS/NZS 3678 standard
- This material should be used in conjunction with the appropriate structural design and welding standards
- Purchasers of Lasercut 250 should satisfy themselves that the material meets the requirements of their particular operation. BlueScope Steel has not carried out testing in all operating conditions and cannot warrant the product with respect to processing performance
- Lasercut 250 is designed with low Silicon levels. This may have an impact on the thickness of the zinc coating when galvanizing. Purchasers should satisfy themselves that the material meets the requirements of their particular operation

## NORMAL / OPTIONAL SUPPLY CONDITIONS

| | Normal |
|---|---|
| Thickness Range | 16 - 25 mm |
| Width Range | 1500 mm |
| Length Range | 3.0 and 6.0 m |
| Surface Finish | Hot Rolled in accordance with Section 9 of AS/NZS 3678 |
| Edge Condition | Trimmed |
| Tolerances | AS/NZS 1365 : 1996 |
| Flatness | AS/NZS 1365 : 1996 |
| Certification | BlueScope Steel |

Optional supply conditions may be subject to dimensional restrictions

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## CHEMICAL COMPOSITION

| Element | Guaranteed Maximum* % | Typical % Thickness(mm) |
|---|---|---|
| | | 16 ≤ t < 25 |
| Carbon | 0.17 | 0.15 |
| Silicon | 0.05 | 0.01 |
| Manganese | 1.1 | 0.90 |
| Phosphorus | 0.025 | 0.015 |
| Sulfur | 0.015 | 0.012 |
| Chrome | 0.3 | 0.027 |
| Nickel | 0.50 | 0.021 |
| Copper | 0.40 | 0.016 |
| Molybdenum | 0.10 | 0.002 |
| Aluminium | 0.06 | 0.035 |
| Titanium | 0.025 | 0.018 |
| CEQ(IIW)** | 0.43 | 0.31 |

*All values shown refer to the relevant Australian Standard unless otherwise stated

** $CEQ(IIW) = C + \frac{Mn}{6} + \frac{(Cr + Mo + V)}{5} + \frac{(Cu + Ni)}{15}$

## MECHANICAL PROPERTIES

| Tensile Properties (Transverse) | | Thickness (mm) |
|---|---|---|
| | | 16 ≤ t < 25 |
| Yield Strength (MPa) | Guaranteed Min | 250 |
| | Typical | 280 - 320 |
| Tensile Strength (MPa) | Guaranteed Min | 410 |
| | Typical | 420 - 455 |
| Elong. (%) on 5.65√So | Guaranteed Min | 22 |
| | Typical | 35 - 42 |

| Charpy Impact Properties | Longitudinal at 0°C on 10 x 10mm Specimen | Absorbed Energy (joules) | |
|---|---|---|---|
| | | Av. Of 3 | Ind. |
| Guaranteed Min | | 27 | 20 |
| Typical | | 150 - 250 | 100 - 250 |

## WELDABILITY

| Group | Guaranteed Maximum | Typical |
|---|---|---|
| Group 1 | 4 | 2 |

Refer to WTIA Technical Note 1 or AS/NZS 1554.1

## FORMABILITY

| Thickness (mm) | Long | Trans |
|---|---|---|
| 16 < t ≤ 25 | 3.0t | 2.0t |

Recommended min. inside radii

## HARDNESS

| Typical |
|---|
| 120-160 BHN |