Stainless Steel Sheet, Coil and Plate

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Stainless Steel Sheet, Coil, Strip & Plate

Specifications

ASTM A240M. Chromium and chromium-nickel stainless steel plate, sheet and strip for pressure vessels and for general applications.

ASTM 480M. General requirements for flat rolled stainless and heat-resisting steel plate, sheet and strip.

The internationally recognized crossover thickness between what is referred to as sheet and plate is 5.0mm. This is specified in ASTM A480M.

Therefore, **sheet** is thickness less than 5.0mm and **plate** is 5.0mm and over.

Production

Stainless steel coil and plate consumed by the Australian market is supplied from mills throughout the world in hot rolled and cold rolled conditions.

It is common practice for large stainless steel coils to be brought into Australia and processed by a specialty metals service centre into smaller coils, sheet, strip and plate. Product over 12mm is brought into Australia as plate only.

Surface Finishes – Coil and Sheet

The following stainless steel finishes are commonly used in the Australian market.

Product	Production Process
2B	The general-purpose, cold rolled, smooth finish obtained as a result of a final light pass through polished rolls at the mill. A semi-matt finish with very good corrosion resistance.
BA	Bright Annealed finish is a bright, cold rolled, reflective finish retained by final annealing in a controlled atmosphere furnace. The finish has large application in the appliance and automotive industry and as a decorative finish in architecture. The brightness and reflectivity is a function of thickness and grade. Consultation is recommended prior to specification in architectural applications. BA finish is usually supplied with a PE or PVC coating as a surface protection.
No.4	Produced from 2B finish often by a service centre rather than the production mill. It is a general-purpose ground polished finish used widely for kitchen equipment and applications requiring a decorative linished finish. No.4 finish is usually supplied with a PE coating as a surface protection.
No.8	Highly reflective 'mirror' finish. Produced from BA finish by polishing with successive finer abrasives followed by extensive buffing. Mainly used in architectural applications.
HRAP (No 1)	Hot Rolled Annealed and Pickled finish is usual for most plate. This dull finish is also supplied on some heavier coil and AtlasCR12 coil and sheet.
Customer-specific	A service centre with polishing equipment can produce special finishes for specific applications.

Protective Coating

PI	Paper Interleave is a layer of paper intended to prevent scoring or galling between sheets or coil wraps during storage and delivery.
PE	Polyethylene coating protects the prime steel surface from handling damage during storage, transport, fabrication and installation.
LF	This is a PE film optimized to avoid bubbling and separation from the metal surface during laser cutting.
PVC	Polyvinyl Chloride film is a specialised plastic optimized for deep drawing applications.
FLV	This is a Fiber Optic Laser Film optimized to avoid bubbling & seperation from the metal surface during Fiber Optic Laser Cutting.

Plastic Film Precautions

All plastic films and more particularly the adhesives that hold them to the steel have limited life. It is recommended that all plastic films be removed within three months. Exposure to sunlight (UV) should be avoided.

Stainless Steel Sheet, Coil and Strip 0.45mm to less than 5mm thick – ASTM A240M

Coil and strip					Sheet	
Grade	Thickness (mm)	Coil width (mm)	Finish	Coating Fiber Optic	Length (mm)	
					Imperial	Metric
304 316	0.45 0.55 0.70 0.90	914 1219 1500	2B No.4 BA	PE/LF	1829 2438 3048 3658	1800 2400 3000 6000
304 316	1.20 1.50 1.60 2.00	914 1219 1500	2B No.4 BA	PE/LF		
304 316	2.50 3.00	914 1219 1500 2000	2B No.4	PE/LF		
304/304L 316/316L	4.00	1219 1500 2000	2B No.1	PE/LF		
430	0.70 0.90	914 1219	2B BA No.4	PE/LF		
Atlas3CR12 Atlas3CR12Ti	1.20 1.60 2.00 3.00 4.00	1250 1500	No.1			

Other grades and widths available, but not usually ex-stock.
Grades: 301L, 301LN, 310, 321, 2205, 253MA, 444
Widths (mm): 600, 750, 900, 1050, 1200, 1524

Product outside the standard range can be indented from overseas mills or stocked by special arrangement.

Stainless Steel Coil Plate - ASTM A240M

The most efficient route for a stainless steel production mill to produce plate (5mm and over) is in coil form. The coil is then further downstream processed by the mill or through a service centre with equipment to flatten (often called 'levelling') and cut to length.

The maximum plate width produced by mills from coil is 2000mm and the maximum thickness is 13mm for hot rolled and 8mm for cold rolled.

Grade	Thickness (mm)	Coil width (mm)	Finish
304/304L 316/316L	5.0 6.0	1500 2000	2B, 2D, 2E No.1
304/304L 316/316L	8.0 10.0 12.0	1500 2000	No.1
AtlasCR12 AtlasCR12Ti	5.0 6.0	1219 1500	No.1

Other grades available, but not always ex-stock
Grades: 310, 321, 2205, 253MA, 2507
Coil plate is commonly stocked in dual certified grade, i.e. 304/304L and 316/316L.

Stainless Steel Quarto Plate Products – ASTM A240M

Another method of producing stainless steel plate within and beyond the thickness range of coil production is from a slab of steel that is rolled in the flat condition to a specified length, width and thickness. The product of this process is commonly referred to as quarto plate and is available from mills in thickness from 5mm and above and widths to 4000mm in some thicknesses.

Grades and thickness for quarto plate are as follows:

Grades	304/304L, 316/316L, AtlasCR12, 253MA, 2205, 2507. (Indent 321, 321H etc)
Thickness (mm)	5.0, 6.0, 8.0, 10.0, 12.0, 16.0, 20.0, 25.0, 32.0, 40.0, 50.0
Width (mm)	1500, 2000, 2500
Length (mm)	6000, 7500, 8000
Finish	No.1

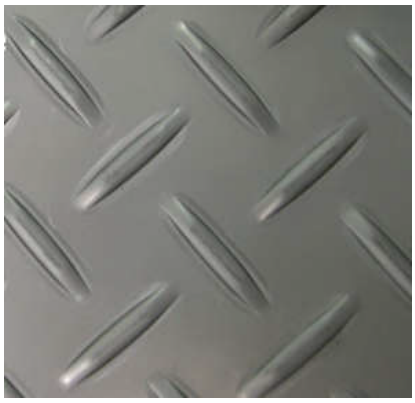
Non-standard grades, widths and lengths can be obtained to individual customer-specific requirements.

Quarto plate is commonly stocked as "dual certified" in the most common grades, 304/304L and 316/316L.

Stainless Steel Chequer (Floor) Plate

Grades	304
Thickness (mm)	3.18, 4.76, 6.00
Width (mm)	1219, 1250 (6mm only)
Length (mm)	2438, 3048, 2500 (6mm only)

Chequer plate pattern is typically as in the photograph below. There are minor differences in tread pattern depending on the manufacturing mill.



Processing for Plate

Atlas Steels Services Centres can also arrange processing such as:

- Plasma cutting
- Laser cutting
- Water jet cutting
- Bending or folding
- Polishing
- Plastic coating

Please contact your sales representative for individual State processing capabilities and service parameters.