316 and 316L Stainless Steel Coil Technical Datasheet

Type 316 · Type 316L

Myriad supplies 316 and 316L stainless steel coils and slit coils for industrial manufacturing. Select the grade and delivery condition to suit the forming, strength and corrosion requirements of the finished part.

Supply range

Parameter	Supply information
Product	316 and 316L stainless steel coils or slit coils; final configuration by agreement.
Thickness range	0.01-0.30 mm, approximately 0.000394-0.011811 in.
Width range	1.5-620 mm, approximately 0.059-24.409 in. At 0.01 mm nominal thickness, the minimum width is 4 mm, approximately 0.157 in.
Surface	BA and 2B are the principal finishes. Mirror finish is a special-case request, subject to confirmation.
Edge options	Slit, deburred, rounded/conditioned or scraped edges. Confirm suitability for the selected dimensions and condition.
Material condition	Agree the delivery condition and numerical mechanical limits for the selected grade and dimensions. The reference properties below do not establish availability of every size and condition combination.
Coil configuration	Agree the core/inside diameter, maximum outside diameter, coil weight and winding requirements.

These dimensions describe Myriad’s overall supply envelope. Confirm the required grade, thickness, width and condition combination individually. Millimetres control the stated supply limits; inch values are approximate conversions.

Technical enquiries

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Dimensions and measurement

Thickness tolerances

Nominal thickness t	Deviation	Resulting limit
0.010 mm	+0.002 / 0 mm	0.010-0.012 mm
0.015 mm	+0.002 / 0 mm	0.015-0.017 mm
0.020-0.100 mm, inclusive	±0.002 mm	Nominal t ±0.002 mm
Greater than 0.100 mm up to 0.300 mm, inclusive	±0.030 mm	Nominal t ±0.030 mm

These are Myriad-declared supply tolerances. Confirm their applicability to the selected grade, dimensions and condition. For other nominal thicknesses between 0.010 and 0.020 mm, agree a tolerance separately; do not interpolate between the listed values.

Exactly 0.100 mm belongs to the ±0.002 mm interval. All boundaries and deviations in this table are defined in millimetres.

Measurement

Agree the measurement method, sampling locations and acceptance rule. For thin material, define handling tension and instrument contact conditions. Specify burr height, camber over a stated length, flatness or coil set, and surface acceptance criteria where these affect the application.

Dimensional standards

Select any dimensional standard according to the manufacturing route and its actual thickness and width coverage. A narrow finished width alone does not establish that material was narrow-rolled.

ISO 9445 distinguishes narrow-rolled strip from material slit from wide strip. Its tables do not automatically cover the entire 0.01-0.30 mm range shown here. Where a standard does not cover the selected configuration, agree the dimensional requirements separately.

Selecting 316 or 316L for your part

Consider 316 for formed components where a molybdenum-bearing austenitic stainless steel is appropriate for the service environment. Consider 316L where lower carbon content is relevant to welded-service requirements and the control of sensitisation.

Evaluate forming and finished-part performance using the intended thickness and delivery condition. A grade designation alone does not define the required strength, hardness or forming behaviour.

Corrosion considerations

The molybdenum addition in 316 and 316L can improve resistance to pitting and crevice corrosion compared with 304. Suitability still depends on the actual medium, temperature, chloride exposure, surface condition and cleaning practice.

Neither grade is immune to chloride attack or chloride stress corrosion cracking. The lower carbon content of 316L reduces sensitisation concerns associated with welding; it does not provide a general guarantee of better performance in every corrosive environment.

Grade and material properties

Grade identity

Grade	Reference identifier
Type 316	UNS S31600
Type 316L	UNS S31603; low-carbon grade

These identifiers are grade references. The historical composition summary below is not a complete specification for either designation. Verify the applicable chemical, mechanical and other product requirements for the supplied material.

Listing both grades in this datasheet does not establish dual certification of any supplied material.

Chemical composition

Composition summary, mass %. Maximum values unless a range is shown.

Grade	Carbon	Manganese	Sulfur	Phosphorus	Silicon	Chromium	Nickel	Molybdenum
Type 316	0.08	2.0	0.03	0.035	1.0	16-18	10.0-14.0	~
Type 316L	0.03	2.0	0.03	0.035	1.0	16-18	11.0-15.0	~

This selected-element summary is based on Myriad's historical material-testing information. The 316L nickel entry of 11.0-15.0% is Myriad's reference range, informed by that information; it does not represent measured coverage of the entire interval or the limits of any particular standard. The other listed maxima and ranges are retained from the historical summary and are not the individual measured results of a single heat.

Molybdenum data were not included in the supplied summary and remain to be added. "Pending" does not mean zero content. This incomplete summary must not be used on its own to establish grade or product-standard conformity. Use heat-specific analysis when assessing a particular batch.

Chemical limits differ between specifications. Confirm the governing requirements rather than treating this historical summary as a universal standard composition table.

Mechanical properties

Reference minimum values for annealed material at room temperature. Strength values are shown as MPa (ksi), using published paired values.

Grade	Condition	0.2% proof strength Rp0.2	Tensile strength Rm	Elongation
316	Annealed	205 (30)	515 (75)	40%
316L	Annealed	170 (25)	485 (70)	40%

Elongation is stated on a 2 in. gauge-length basis. Identify the actual gauge length and specimen geometry in the test requirements. Different gauge lengths or specimen geometries require separately agreed elongation criteria.

These values are technical references, not Myriad batch measurements or guaranteed limits across the supply range. They do not describe cold-worked tempers. Confirm numerical acceptance limits, test direction and a valid test method for the selected thickness and condition.

For hardness, specify the method, test force, dwell time and acceptable range. Confirm that specimen thickness, preparation and support permit a valid indentation. Do not use a hardness conversion as a substitute for a measured tensile acceptance result.

Grade and material properties

Work hardening and welding

Both grades are austenitic stainless steels. Cold work raises strength and hardness while reducing ductility, and can increase magnetic response. Magnetic attraction alone cannot identify the grade or establish acceptance.

Both grades are weldable, but thin material requires control of heat input, fixturing and shielding. Welding can reduce strength obtained through cold work. Assess the finished joint where strength or corrosion performance is critical.

Product standards

ASTM A240/A240M with applicable A480/A480M requirements, or ASTM A666/A666M for the selected condition, may be considered after checking scope. Agree the governing edition and unit system.

For thin-material tensile testing, consider ASTM E345 where suitable. Confirm specimen preparation, gripping, test direction, gauge length and strain measurement.

The historical chemistry summary and mechanical reference table do not establish complete compliance with a product standard. Any required standard compliance or dual certification must be verified for the specific supplied material.