



## SPIRALLY WELDED PIPE PROPERTIES

### RAW MATERIALS

Spiraweld pipe sources all material from reputable NZ steel merchants with supporting material test certificates.

#### Grades used:

- 304 Low carbon, 2B cold rolled to ASTM A240M / A480M
- 316 Low carbon, 2B cold rolled to ASTM A240M / A480M
- Other grades can also be supplied. E.g. 2205.

#### Thicknesses:

- 2mm
- 3mm
- 4mm\* - slit coil must be imported as 4mm coil cannot be slit in NZ.
- 1.5mm\* - not a regular thickness, subject to coil stock being available.

Material test certificates can be provided with all new pipe production.

### STANDARDS USED

ASTM A409 - previously BS3605

ASTM A778

### PROCESS

Pipe is spirally formed from coils of the raw material and fused with a fusion weld produced by a GTAW process without filler wire. Shielding gas is Argon and 2.5% Hydrogen with a nitrogen back purge.

Weld certificates are not currently provided for individual production runs. However, welders are certified for our current process to meet the required standard.

Pipe up to 12" is faced while larger diameters are cut using cut off discs and burrs removed.

All pipe is pickled and passivated after production by full immersion in a monitored solution of Nitric and Hydrofluoric Acid for 8+ hours.

### PIPE TESTING

Independent laboratory testing of the weld can be arranged at the customers cost. Spiraweld does conduct periodic testing of weld quality.

#### PIPE MECHANICAL PROPERTIES

A guide to pressure ratings can be seen in appendix 3.

Tensile testing across the weld has shown decreases in material UTS of less than 10%.

Testing information on loading, compression strength, crush and bending properties is not currently available but standard mechanical calculations can be used along with relevant factors of safety for the application.

Spirally welded pipe generally exhibits good cylindricity due to axial symmetry. There are a number of other structural benefits of spirally welded pipe.

#### DIMENSIONAL TOLERANCES

- Diameter +/- 0.20% for sizes 14" and larger,  
+/- 0.30% for 8, 10 and 12",  
+/- 0.40% for 6" and smaller
- Wall thickness tolerance +0 / -6% [e.g. 2.0mm is 1.88mm - 2.0mm]

#### IDENTIFICATION

Pipes are labelled with temporary labels and raw material tracked against production runs.