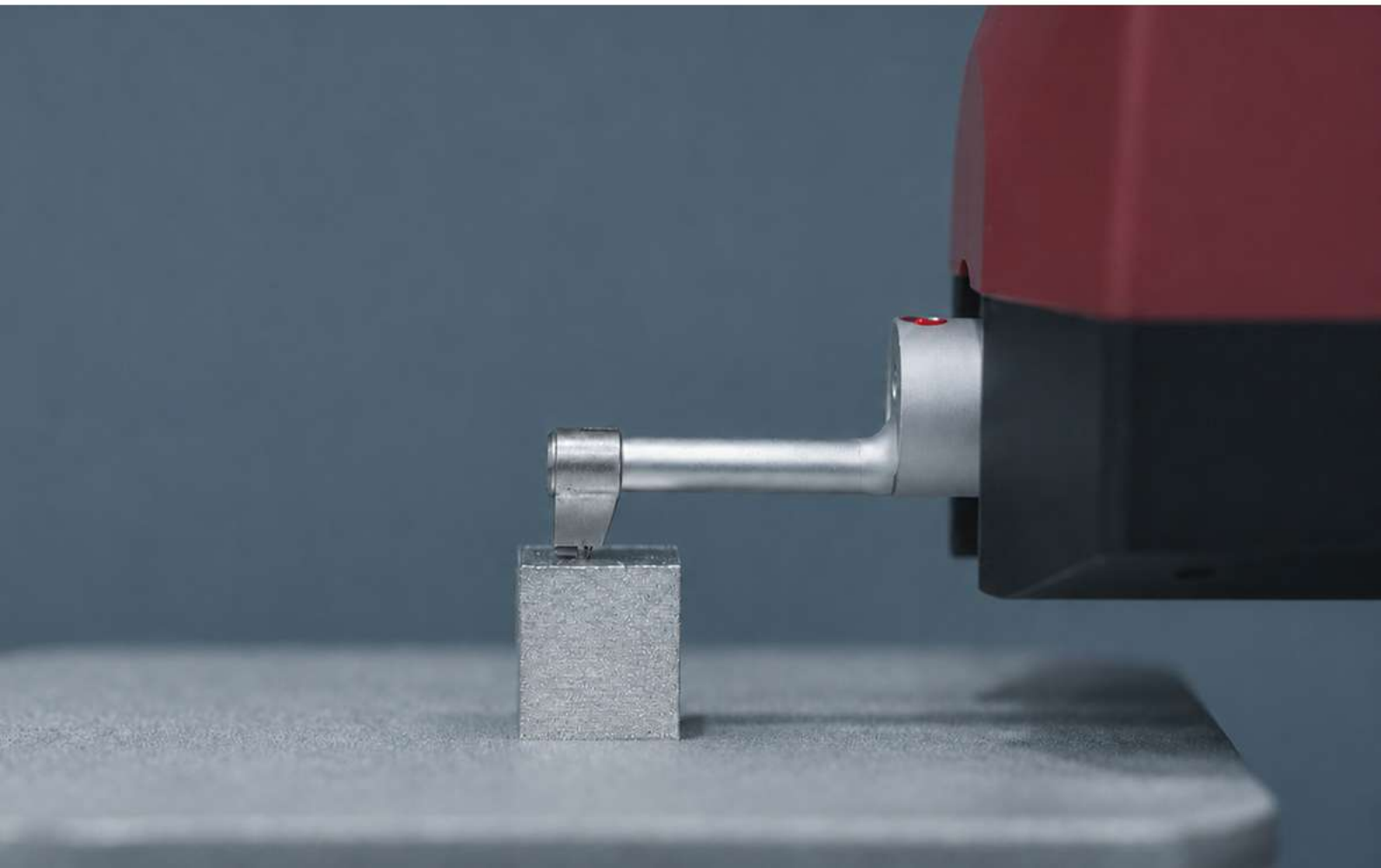
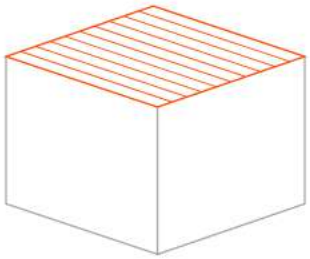
316L Stainless Steel Datasheet



Surface Roughness

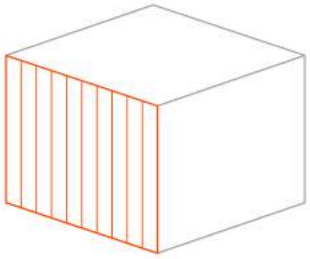
316L stainless steel · Printed on SnowPod · As-built



0° Top surface

Surface roughness · Ra

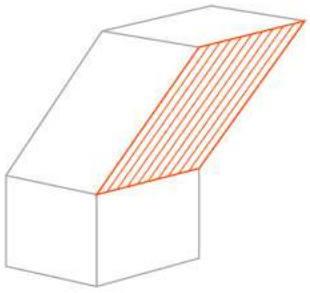
2.79 µm



90° Side surface

Surface roughness · Ra

6.5 µm



45° Downward-facing

Surface roughness · Ra

9.01 µm

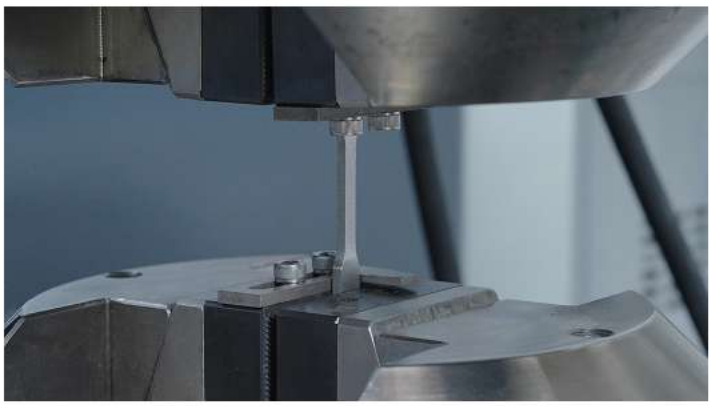
Test Conditions & Standards

Condition: As-built
GB/T 3505 (ISO 4287, IDT)
GB/T 10610 (ISO 4288, IDT)

Test data only. Based on sample testing conducted at SNOWX's laboratory.

Tensile Properties & Composition

316L stainless steel · Printed on SnowPod · As-built



Two Build Directions

Transverse / XY orientation
Longitudinal / Z orientation

Test standard
GB/T 228.1 (ISO 6892-1, MOD)

Tensile Properties

Property	XY	Z
Ultimate Tensile Strength (MPa)	729	618
Yield Strength (MPa)	617	518
Elongation (%)	32.5	32.5
Reduction of Area (%)	52	52
Elastic Modulus (GPa)	184.4	163.2

Chemical Composition

Composition by mass. Bal. = balance.

wt.%	C	S	P	Cr	Si	Mn	Mo	Ni	Fe
Specified	≤0.03	≤0.03	≤0.045	16–18	≤1	≤2	2–3	10–14	Bal.
Measured	0.015	0.01	0.034	17.3	0.55	1.02	2.2	10.6	Bal.

Test data only. Based on sample testing conducted at SNOWX's laboratory.

Nickel Release

316L stainless steel · EN 1811:2023



Test Conditions

168 hours (7 days)
Artificial sweat solution · ICP-OES

Test standard
EN 1811:2023



Sample A
As-built



Sample B
Polished



Sample C
Acid-pickled & polished

Nickel Release Results

Test sample	A	B	C
Sample Area Tested (cm^2)	30	29.5	29
Artificial Sweat Solution (mL)	50	50	50
Released Nickel	Not Detected Below the method detection limit of 0.05 $\mu g/cm^2$/week		
Test Result	Passed	Passed	Passed

About the EN 1811 test

EN 1811 measures nickel release from products intended for prolonged skin contact. Samples were immersed in artificial sweat solution for 168 hours (7 days), then analyzed by ICP-OES.

Test data only. Results shown for the three tested 316L samples.