PURE METALS / MATERIAL PROFILE

Pure Nickel Capillary Tubing

Nickel 200 (UNS N02200) / Nickel 201 (UNS N02201)

01 Chemical composition

Reference limits by mass. Nickel 201 is the lower-carbon grade.

ELEMENT / MASS %	NICKEL 200	NICKEL 201
Nickel + cobalt (Ni + Co)	**99.0 min**	**99.0 min**
Carbon (C)	**0.15 max**	**0.02 max**
Iron (Fe)	**0.40 max**	**0.40 max**
Manganese (Mn)	**0.35 max**	**0.35 max**
Silicon (Si)	**0.35 max**	**0.35 max**
Copper (Cu)	**0.25 max**	**0.25 max**
Sulfur (S)	**0.01 max**	**0.01 max**

02 Typical physical properties

Conductivity and resistivity are for annealed material at 20 °C, not finished-tube test results.

PROPERTY / UNIT	NICKEL 200	NICKEL 201
Density / g/cm³	**8.89**	**8.89**
Thermal conductivity / W/(m·K)	**70.3**	**79.3**
Electrical resistivity / μΩ·m	**0.096**	**0.085**

Selecting a grade for service

For a sensor or electrode, specify the grade and any electrical acceptance test. For a tube in chemical service, identify the medium, its concentration and the operating temperature. Availability is confirmed at quotation. The two grades are not automatic substitutes.

PRECISION ROUND TUBING / PRODUCT SPECIFICATION

Tube Dimensions and Finish

Commercially pure nickel / Custom capillary tubing, cut lengths and sleeves

03 Dimensional capabilities

MingQuan's ranges below cover its tubing program. They are not stock sizes or a guarantee for every nickel tube. We confirm the grade and feasible size combination at quotation.

FEATURE	CAPABILITY	SCOPE
Outside diameter (OD)	**0.3–20 mm**	Core focus: below 6 mm OD.
Wall thickness	**0.015–1.5 mm**	Depends on OD and bore.
Tube or component length	**0.8–2000 mm**	Long tubes and cut parts.
Inside / outside diameter tolerance	**±0.005 mm**	**Selected capillary sizes only.**
Cut-length tolerance	**Typically ±0.1 mm**	Length of short parts only.

04 Surface finish and cut ends

OUTER SURFACE

Ra ≤ 0.2 µm

BORE SURFACE

Ra ≤ 0.6 µm

Confirm the finish for the specified bore and length. Cut ends are burr-free; visual inspection at 20× checks for obvious surface damage. Call out any specific edge profile on the drawing.

What to include with your drawing

MATERIAL	Nickel grade or UNS designation, governing specification and condition.
GEOMETRY	OD, bore, wall, length, critical tolerances and end details.
ORDER	Quantity, inspection records and material traceability requirements.

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