

# Nickel-Chromium (Ni-20Cr) Sputtering Target — Technical Data Sheet

## 1. Basic Description

Nickel-Chromium (Ni-20Cr) sputtering target is a high-purity alloy material (typically 99.9% purity) used for thin film deposition, including magnetron sputtering and evaporation coating. It offers excellent electrical resistance, oxidation resistance, adhesion and chemical stability, making it ideal for precision thin film applications.

## 2. Chemical Composition (wt%)

Element	Content (wt%)	Function
Ni	≈80	Base metal, corrosion and oxidation resistance
Cr	≈20	Enhances oxidation resistance and hardness
Fe	≤1	Minor impurity
C, Si, Mn	≤1 total	Improves processability and film quality

## 3. Main Applications

- **Resistive Films:** Used in precision resistors, micro-heaters, and thin film circuits.
- **Display & Touch Panels:** Serves as adhesion or barrier layer beneath ITO coatings.
- **Semiconductors & MEMS:** Conductive and diffusion barrier layer in ICs and sensors.
- **Optical Coatings:** Reflection and absorption films for optical components.
- **Protective Coatings:** Corrosion- and oxidation-resistant barrier coatings.
- **Energy Devices:** Used in solar cells, electrodes, and fuel cell coatings.
- **RF & Microwave Devices:** For impedance control and damping layers.

## 4. Typical Thin Film Properties

Property	Typical Value	Description
Resistivity	1.1–1.5×10 <sup>-4</sup> Ω·m	Stable and uniform electrical resistance
Film thickness	10–1000 nm	Adjustable by process control
Adhesion	Excellent	Strong bonding to glass, Si, ITO substrates
Working temperature	≤500°C	High thermal stability
Corrosion resistance	Excellent	Stable in humid and oxidative environments

## 5. Typical Target Shapes

- Circular targets: Ø100–300 mm
  - Rectangular targets: 200×1000 mm
  - Evaporation pieces or granules for vacuum evaporation
- All forms are available in ≥99.9% purity for semiconductor and optical coating use.

## 6. Summary

Nickel-Chromium (Ni-20Cr) target is one of the most commonly used functional alloy materials in the electronics and optoelectronics industries. It provides controllable resistivity, high stability, and excellent adhesion, making it a preferred choice for thin film resistors, adhesion layers, reflective coatings, and protective layers.

## Contact Information

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