Nickel powder S-20 grade

Other grades of S-series powders: S-27 and S-30

- Fine filamentary structure
- Large surface area
- Low apparent density

APPLICATIONS

- Batteries
- Fuel Cells
- Auto-related powder metallurgy
- Electronics and paints

PHYSICAL CHARACTERISTICS

Bulk density, g/cc	0.51–0.64
Fisher Sub-Sieve Size, mkm	1.85–2.20

CHEMICAL COMPOSITION

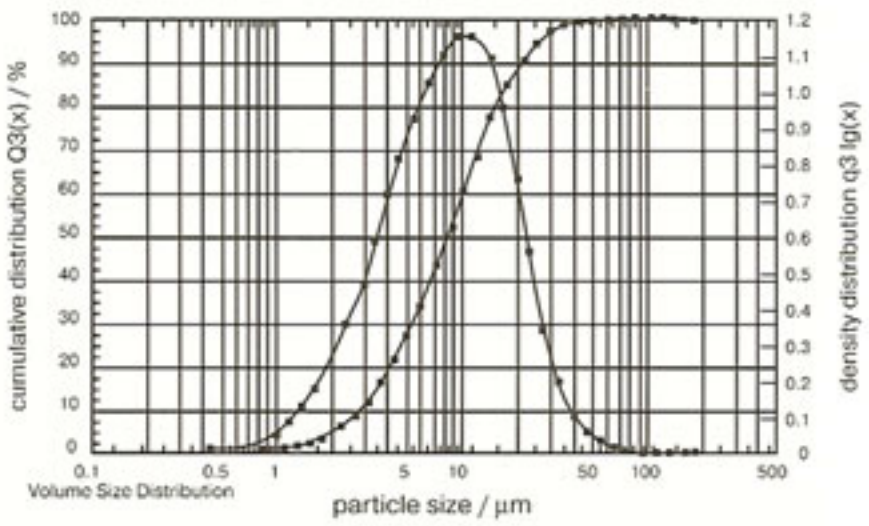
Ni min.	**99.7**
C max.	**0.28**
Fe max.	**0.002**
Co max.	**0.001**
Si max.	**0.001**
Cu max.	**0.001**
Mg max.	**0.001**
As max.	**0.001**
S max.	**0.001**
Zn max.	**0.001**
P max.	**0.001**
Cd max.	**0.0003**
Bi max.	**0.0003**
Mn max.	**0.001**
Sn max.	**0.0003**
Pb max.	**0.0003**
Sb max.	**0.0003**
Ca max.	**0.005**

Oxygen content controlled during production to less than 0.15 %

PACKAGING

4-6 steel drums (diameter 380 mm, height 610 mm with internal coating by protective resin and easy-open lids) up to 50 kg net weight each, placed on the wooden pallet

Particle size distribution by Sympatec Helos



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NORILSK NICKEL

Nickel powder
S-30 grade

Other grades of S-series powders:
S-27 and S-20

- Fine filamentary structure
- Large surface area
- Low apparent density

APPLICATIONS

- Batteries
- Fuel Cells
- Auto-related powder metallurgy
- Electronics and paints

PHYSICAL CHARACTERISTICS

Bulk density, g/cc	0.60–0.80
Fisher Sub-Sieve Size, mkm	2.91–3.50

CHEMICAL COMPOSITION

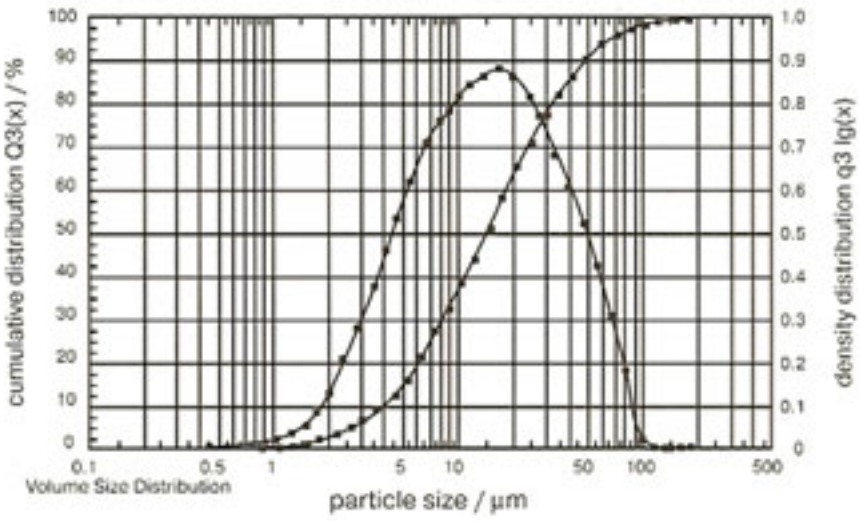
Ni min.	**99.7**
C max.	**0.28**
Fe max.	**0.002**
Co max.	**0.001**
Si max.	**0.001**
Cu max.	**0.001**
Mg max.	**0.001**
As max.	**0.001**
S max.	**0.001**
Zn max.	**0.001**
P max.	**0.001**
Cd max.	**0.0003**
Bi max.	**0.0003**
Mn max.	**0.001**
Sn max.	**0.0003**
Pb max.	**0.0003**
Sb max.	**0.0003**
Ca max.	**0.005**

Oxygen content controlled during production to less than 0.15 %

PACKAGING

4-6 steel drums (diameter 380 mm, height 610 mm with internal coating by protective resin and easy-open lids) up to 50 kg net weight each, placed on the wooden pallet

Particle size distribution by Sympatec Helos



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NORILSK NICKEL

Nickel powder **UT1** grade

Other grades of UT-series powders: UT2; UT3-ICG(L); UT3-PM and UT4

- Discrete fine powder
- Large Surface Area
- Very High Purity
- Stable morphology
- Narrow particle size distribution

APPLICATIONS

- Sintered Steel Components
- Hard Metals
- Magnets
- Welding
- Salts
- Catalysts

PHYSICAL CHARACTERISTICS

Bulk density, g/cc	3.0–3.5
Fisher Sub-Sieve Size, mkm	7–8,5

CHEMICAL COMPOSITION

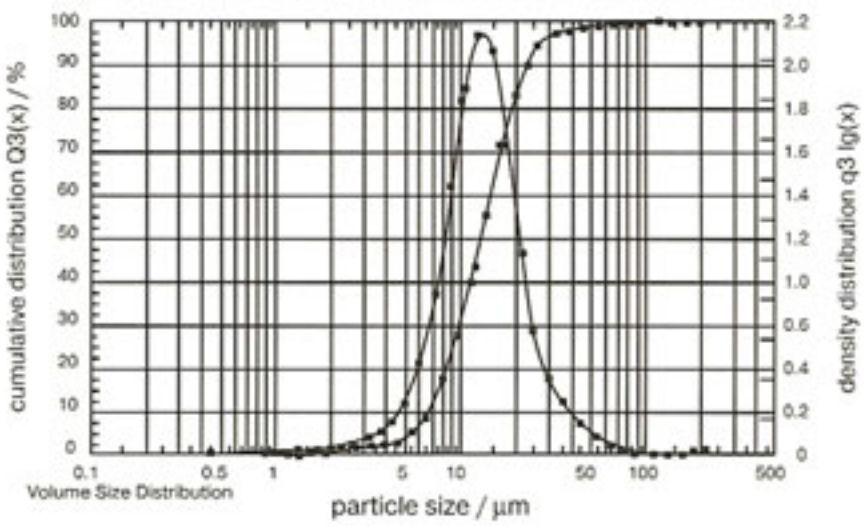
Ni min.	**99.9**
C max.	**0.09**
Fe max.	**0.0015**
Co max.	**0.001**
Si max.	**0.001**
Cu max.	**0.0003**
Mg max.	**0.0003**
As max.	**0.0005**
S max.	**0.0007**
Zn max.	**0.0003**
P max.	**0.0003**
Cd max.	**0.0001**
Bi max.	**0.0001**
Mn max.	**0.0003**
Sn max.	**0.0001**
Pb max.	**0.0001**
Sb max.	**0.0002**
Ca max.	**0.005**

Oxygen content controlled during production to less than 0.15 %

PACKAGING

4-6 steel drums (diameter 380 mm, height 610 mm with internal coating by protective resin and easy-open lids) up to 150 kg net weight each, placed on the wooden pallet

Particle size distribution by Sympatec Helos



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NORILSK NICKEL

Nickel powder **UT2** grade

Other grades of UT-series powders: UT1; UT3-ICG(L); UT3-PM and UT4

- Discrete fine powder
- Large Surface Area
- Very High Purity
- Stable morphology
- Narrow particle size distribution

APPLICATIONS

- Sintered Steel Components
- Hard Metals
- Magnets
- Welding
- Salts
- Catalysts

PHYSICAL CHARACTERISTICS

Bulk density, g/cc	2.51–2.99
Fisher Sub-Sieve Size, mkm	5–7

CHEMICAL COMPOSITION

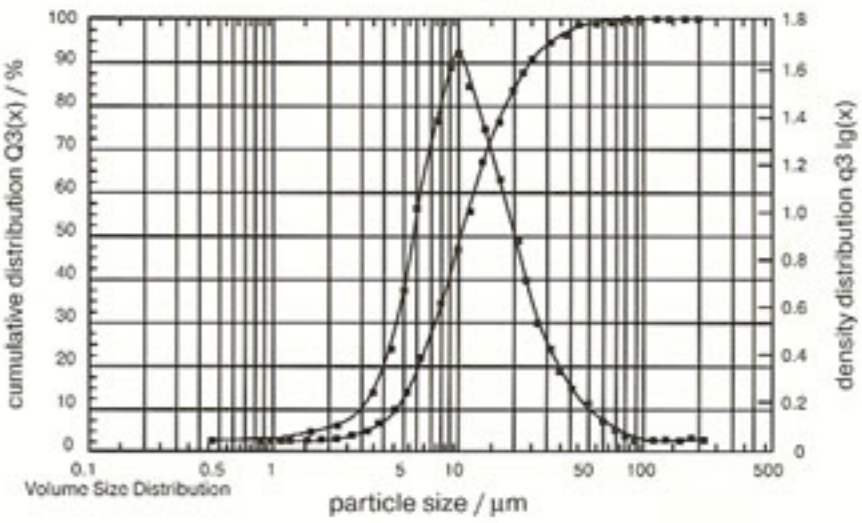
Ni min.	**99.9**
C max.	**0.09**
Fe max.	**0.0015**
Co max.	**0.001**
Si max.	**0.001**
Cu max.	**0.0003**
Mg max.	**0.0003**
As max.	**0.0005**
S max.	**0.0007**
Zn max.	**0.0003**
P max.	**0.0003**
Cd max.	**0.0001**
Bi max.	**0.0001**
Mn max.	**0.0003**
Sn max.	**0.0001**
Pb max.	**0.0001**
Sb max.	**0.0002**
Ca max.	**0.005**

Oxygen content controlled during production to less than 0.15 %

PACKAGING

4-6 steel drums (diameter 380 mm, height 610 mm with internal coating by protective resin and easy-open lids) up to 150 kg net weight each, placed on the wooden pallet

Particle size distribution by Sympatec Helos



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NORILSK NICKEL

Nickel powder UT3-PM grade

Other grades of UT-series:
UT1, UT2, UT3-ICG(L) and UT4

- Discrete fine powder
- Large surface area
- Very high purity
- Stable morphology
- Narrow particle size distribution

APPLICATIONS

- Sintered steel components
- Magnets
- Welding
- Salts
- Catalysts

PHYSICAL CHARACTERISTICS

Bulk density, g/cc	1.91–2.60
Fisher Sub-Sieve Size, mkm	3–6

CHEMICAL COMPOSITION

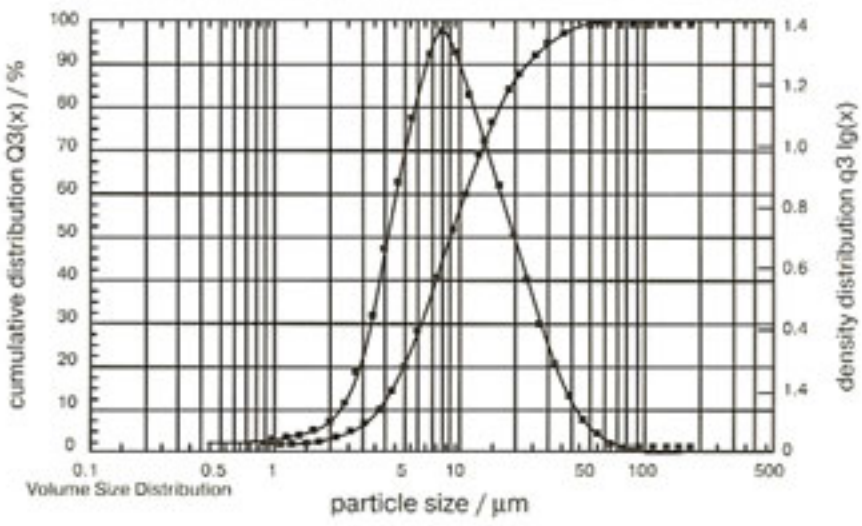
Ni min.	**99.9**
C max.	**0.09**
Fe max.	**0.0015**
Co max.	**0.001**
Si max.	**0.001**
Cu max.	**0.0003**
Mg max.	**0.0003**
As max.	**0.0005**
S max.	**0.0007**
Zn max.	**0.0003**
P max.	**0.0003**
Cd max.	**0.0001**
Bi max.	**0.0001**
Mn max.	**0.0003**
Sn max.	**0.0001**
Pb max.	**0.0001**
Sb max.	**0.0002**
Ca max.	**0.005**

Oxygen content controlled during production to less than 0.15 %

PACKAGING

4-6 steel drums (diameter 380 mm, height 610 mm with internal coating by protective resin and easy-open lids) up to 150 kg net weight each, placed on the wooden pallet

Particle size distribution by Sympatec Helos



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NORILSK NICKEL

Nickel powder UT3-ICG(L) grade

Other grades of UT-series powders: UT1; UT2; UT3-PM and UT4

- Discrete fine powder
- Large Surface Area
- Very High Purity
- Stable morphology

APPLICATIONS

- Salts
- Catalysts
- Magnets
- Welding
- Sintered Steel Components
- Hard Metals

PHYSICAL CHARACTERISTICS

Bulk density, g/cc	1.60–2.60 (for UT3-ICGL) 1.91–2.60 (for UT3-ICG)
Particle Size, mkm	<20 but 50% of the lot could be >20 mkm

CHEMICAL COMPOSITION

Ni min.	**99.8**
C max.	**0.1**
Fe max.	**0.003**
Co max.	**0.002**
Si max.	**0.003**
Cu max.	**0.003**
Mg max.	**0.002**
As max.	**0.0005**
S max.	**0.003**
Zn max.	**0.002**
P max.	**0.002**
Cd max.	**0.002**
Bi max.	**0.002**
Mn max.	**0.002**
Sn max.	**0.002**
Pb max.	**0.002**
Sb max.	**0.002**
Ca max.	**0.005**

Oxygen content controlled during production to less than 0.15 %

PACKAGING

4-6 steel drums (diameter 380 mm, height 610 mm with internal coating by protective resin and easy-open lids) up to 150 kg net weight each, placed on the wooden pallet

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NORILSK NICKEL

Nickel powder UT4 grade

Other grades of UT-series powders: UT1; UT2; UT3-ICG(L) and UT3-PM

- Discrete fine powder
- Large Surface Area
- Very High Purity
- Stable morphology
- Narrow particle size distribution

APPLICATIONS

- Sintered Steel Components
- Hard Metals
- Magnets
- Welding
- Salts
- Catalysts

PHYSICAL CHARACTERISTICS

Bulk density, g/cc	1.41–1.90
Fisher Sub-Sieve Size, mkm	1.70–3.00

CHEMICAL COMPOSITION

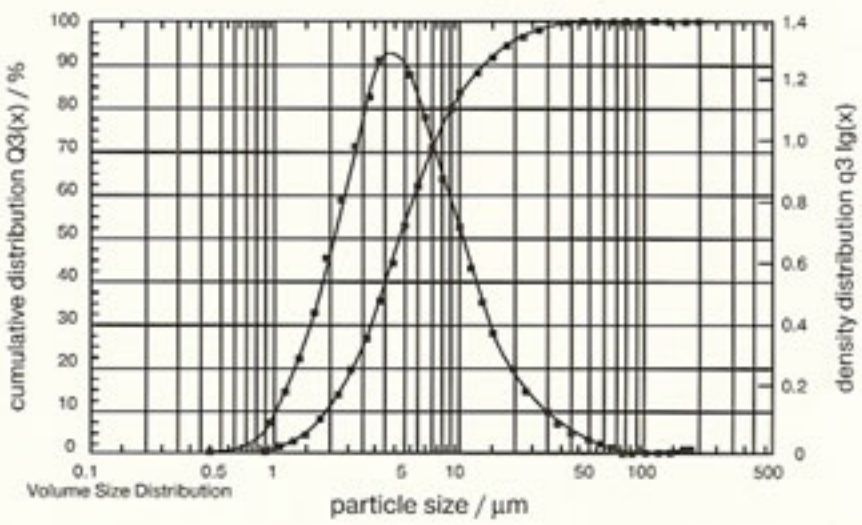
Ni min.	**99.9**
C max.	**0.09**
Fe max.	**0.0015**
Co max.	**0.001**
Si max.	**0.001**
Cu max.	**0.0003**
Mg max.	**0.0003**
As max.	**0.0005**
S max.	**0.0007**
Zn max.	**0.0003**
P max.	**0.0003**
Cd max.	**0.0001**
Bi max.	**0.0001**
Mn max.	**0.0003**
Sn max.	**0.0001**
Pb max.	**0.0001**
Sb max.	**0.0002**
Ca max.	**0.005**

Oxygen content controlled during production to less than 0.15 %

PACKAGING

4-6 steel drums (diameter 380 mm, height 610 mm with internal coating by protective resin and easy-open lids) up to 150 kg net weight each, placed on the wooden pallet

Particle size distribution by Sympatec Helos



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