

SF928CH Master alloy for casting of 925‰ silver

Technical datasheet and guideline for 925 ‰

GENERAL INFORMATION AND RECOMMENDED APPLICATIONS

| | |
|------------------------------|---|
| Typology | Master alloy for silver |
| Production process | Casting |
| Color | Silver |
| Color | |
| Density [g/cm ³] | 10.3 |
| Melting temperatures | Solidus [°C] 730 Liquidus [°C] 900 |
| As cast hardness [HV 0.2] | 50 |

Product applications

Casting in open systems
 Casting in closed systems
 Casting without stones
 Stone-in-place casting

FULL CHARACTERIZATION DATA

| General characteristics | | Mechanical characteristics | |
|----------------------------------|------|---------------------------------------|-----|
| As cast grain size [µm] | 180 | Tensile strength (Rm) [MPa] | 251 |
| Fluidity (grid filling test) [%] | 80 | Yield strength (Rp0.2) [MPa] | 113 |
| Color coordinates | | Elongation at rupture (A) [%] | 26 |
| L* | 93.9 | As cast hardness [HV 0.2] | 50 |
| a* | -0.6 | Hardness after 70% area red. [HV 0.2] | 160 |
| b* | 6.2 | Hardness after annealing [HV 0.2] | 70 |
| c* | 6.2 | Hardness after age-hardening [HV 0.2] | 110 |
| Color shade | | | |

CASTING PROCESSING PARAMETERS

| | |
|------------------------------------|------------|
| Pre-mixing temperature [°C] | 975 |
|------------------------------------|------------|

| | |
|--------------|--|
| Metal - from | |
|--------------|--|

| | |
|--------------|--|
| Flask - from | |
|--------------|--|

| Casting temperatures | [°C] | Metal - to [°C] | [°C] | Flask - to [°C] |
|-----------------------------|-------------|-----------------|------------|-----------------|
| Thin (below 0.5 mm) | 1000 | 1030 | 560 | 600 |
| Medium (from 0.5 to 1.2 mm) | 980 | 1000 | 520 | 560 |
| Thick (above 1.2 mm) | 960 | 980 | 480 | 520 |

Stone-in-place casting trees

Let the flask cool down in the chamber for 1 minute after pouring. Take the flask out of the machine without shaking it, let it cool for 25 minutes in air, then quench in water.

Trees without stones

Let the flask cool down in the chamber for 1 minute after pouring. Take the flask out of the machine without shaking it, let it cool for 15 minutes in air, then quench it in water.

MECHANICAL WORKING PARAMETERS

Pre-mixing temperature [°C] 975

| Casting temperature | Metal - from [°C] | Metal - to [°C] |
|----------------------------|-------------------|-----------------|
| Ingot making | | |
| Continuous casting | | |

AGE HARDENING PROCESSING PARAMETERS

| Age-hardening using solubilization treatment | Temperature [°C] | Time [min] | Quenching |
|---|------------------|------------|--------------------------|
| Solubilization | 730 | 40 | Water, immediate |
| Age-hardening | 300 | 60 | Air or in furnace |

| Single step age-hardening treatment | Temperature [°C] | Time [min] | Quenching |
|--|------------------|------------|--------------------------|
| Age-hardening | 300 | 90 | Air or in furnace |