LEGOR
Extraordinary matter

MASTER ALLOY
GOLD LINE

TECHNICAL SHEET

# C141US 585‰

MASTER ALLOY FOR CASTING OF 375-585‰ (9-14 KT) YELLOW GOLD

## GENERAL INFORMATION

| General information | |
|---|---|
| Typology | Master alloy for gold |
| Color | Yellow |
| Color shade | Rich yellow |
| Production process | Casting |
| Grain refinement level | Medium |
| Deoxidation level | High |

| Commercial composition (%) | |
|---|---|
| CU | 69.00 |
| AG | 16.00 |
| ZN | 15.00 |

| Melting Temperatures | |
|---|---|
| Solidus [°C] | 820.0 |
| Liquidus [°C] | 870.0 |
| Melting range [°C] | 50.0 |

## FULL CHARACTERIZATION DATA

**Color coordinates**

| L * | a* | b* | c* | Yellow Index |
|---|---|---|---|---|
| 88.2 | 2.7 | 17.9 | 18.1 | |

| Mechanical characteristics | |
|---|---|
| As cast hardness [HV 0.2] | 110.0 |
| Hardness after 70% area red. [HV 0.2] | 270.0 |
| Hardness after annealing [HV 0.2] | 135.0 |
| Single step age-hardening hardness [HV 0.2] | 150.0 |
| Tensile strength (Rm) [Mpa] | 442.0 |
| Yield strength (Rp0.2) [MPa] | 237.0 |
| Elongation at rupture (A) [%] | 38.0 |

| Physical characteristics | |
|---|---|
| As cast grain size [µm] | 600.0 |
| Density [g/cm³] | 12.9 |

**Product applications**

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



02/02/2024

LEGOR GROUP S.P.A. - Via del Lavoro, 1 - 36050 (VI) - Italy - Tel. +39 0444 467911 - Fax +39 0444 660677 - info@legor.com - www.legor.com

LEGOR
Extraordinary matter

MASTER ALLOY
GOLD LINE

TECHNICAL SHEET

# C141US 585‰

MASTER ALLOY FOR CASTING OF 375-585‰ (9-14 KT) YELLOW GOLD

## CASTING PROCESSING PARAMETERS

### Pre-melting temperature

Temperature [°C] 990

| POURING TEMPERATURES | Flask from [°C] | Flask to [°C] | Metal from [°C] | Metal to [°C] |
|---|---|---|---|---|
| < 0.5 mm | 660 | 720 | 970 | 1000 |
| 0.5 - 1.2 mm | 580 | 650 | 950 | 970 |
| > 1.2 mm | 460 | 600 | 930 | 950 |

### Trees without stones

Let the flask cool down for 10-15 minutes, then quench it in water.

### Stone-in-place casting trees

Let the flask cool down for 30-45 minutes, then quench it in water.

### Pickling

Dip in RADIAL solution (50 g/l conc. at 60°C) for 2 minutes, or in sulphuric acid (10% concentration at 50°C) for 5 minutes.

## AGE HARDENING PROCESSING PARAMETERS

| SINGLE STEP | Temperature [°C] | Time [min] | Quenching |
|---|---|---|---|
| AGE HARDENING | 250.0 | 90.0 | In air or in furnace |



02/02/2024

LEGOR GROUP S.P.A. - Via del Lavoro, 1 - 36050 (VI) - Italy - Tel. +39 0444 467911 - Fax +39 0444 660677 - info@legor.com - www.legor.com