LEGOR®

MASTER ALLOY

TECHNICAL SHEET

Proderma

NF505 375‰

NICKEL-FREE ALL-PURPOSE MASTER ALLOY FOR 585-750‰ (14-18 KT) WHITE GOLD

GENERAL INFORMATION

General information	
Typology	Master alloy for gold
Color	White, nickel-free
Color shade	Off-white
Production process	All-purpose
Grain refinement level	Medium
Deoxidation level	Medium

Commercial composition (%)	
CU	56.2
AG	20.0
PD	13.8
ZN	10.0

Melting Temperatures	
Solidus [°C]	880.0
Liquidus [°C]	950.0

FULL CHARACTERIZATION DATA

Color coordinates

L *	a*	b*	c*	Yellow Index
85.3	5.0	10.4		24.9

Mechanical characteristics	
As cast hardness [HV 0.2]	185.0
Hardness after 70% area red. [HV 0.2]	295.0
Hardness after annealing [HV 0.2]	190.0
Single step age-hardening hardness [HV 0.2]	270.0

Physical characteristics	
Density [g/cm³]	11.6

Product applications

Stone-in-place casting
Casting in closed systems
Casting in open systems
Wire production
Sheet production
Casting without stones

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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

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CASTING PROCESSING PARAMETERS

Pre-melting temperature

Temperature [°C]	1070

POURING TEMPERATURES	Flask from [°C]	Flask to [°C]	Metal from [°C]	Metal to [°C]
< 0.5 mm	660	720	1040	1070
0.5 - 1.2 mm	580	650	1020	1040
> 1.2 mm	460	600	1000	1020

MECHANICAL WORKING PARAMETERS

Pre-melting temperature

Temperature [°C]	1070

Reductions

Wire - diameter (%)	45.0
Sheet - area or thickness (%)	70.0

POURING TEMPERATURES	Countinous from [°C]	Countinous to [°C]	Ingot to [°C]	Ingot from [°C]
Temperatures	1030	1100	1010	1050

MECHANICAL WORKING ANNEALING	Temp. from [°C]	Temp. to [°C]	Time [min]
< 1 mm	680	720	25
1 - 5 mm	680	720	30
> 5 mm	680	720	35

Mechanical working quenching

Quench directly in water.

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AGE HARDENING PROCESSING PARAMETERS

SINGLE STEP	Temperature [°C]	Time [min]	Quenching
AGE HARDENING	325.0	90.0	In air or in furnace

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