TECHNICAL SPECIFICATIONS

Heraeus

Alloy Code: H-449 Colour: White

Alloy Type: Master Alloy for Sterling Silver

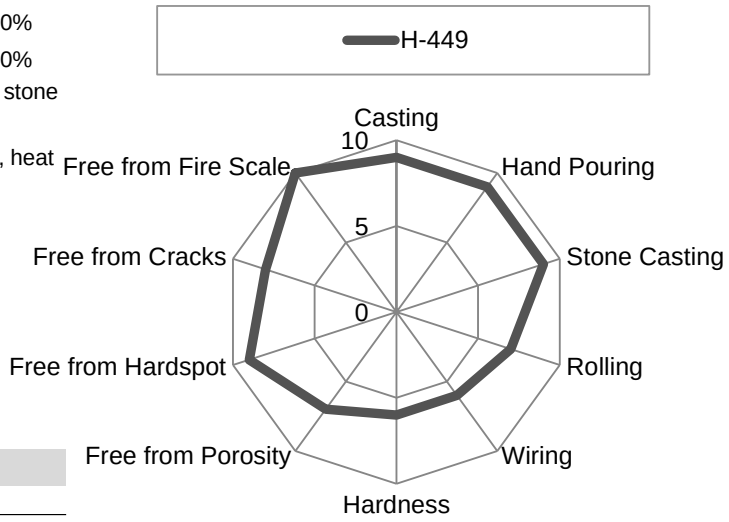
Content : **Nickel:** 0.00% **Palladium:** 0.00%
Silver: 0.00% **Platinum:** 0.00%

Applications: Suitable for loss wax casting, torch melting, stone casting

Advantages: Anti-tarnishing, fire stain free, less red stain, heat treatment, extra white

Melting Range (ºC):

Sterling Silver	879 - 881



Score(1--10)
1 means less likely to occur or not suitable
10 means most likely to occur or most suitable

CIELAB Value :

Title	YI:D1925	L*	a*	b*
Sterling Silver	8.2	93.5	-1.0	4.5

Mechanical Properties :

Title	Annealed Hardness (HV)	As Casted Hardness (HV)	Max. Strength (MPa)	Yield Strength (MPa)	Elongation (%)
Sterling Silver	63	64	210	71	41

Recommended Casting Parameters : (Quenching Time: 15 - 25 Minutes)

Title	Metal Casting Temperature (ºC)	Vacuum-assisted Casting Investment Temperature (ºC) Thickness of work piece (mm)		
		Thin (<0.5)	Medium (0.5~1.1)	Thick (>1.1)
Sterling Silver	980-1000	660-700	560-640	440-560

Recommended Mechanical Working Parameters:

Recommended Annealing Temperature (ºC)	Annealing Time for thickness (min)	< 1 mm	1 - 5 mm	> 5 mm
Sterling Silver	600 - 650	30	35	40

Process	Casting Temperature (ºC)	Recommended Reductions	
Ingot	960 - 1000	Sheet Thickness %	70
Continuous Casting	980 - 1060	Wire Diameter %	45

Age Hardening Parameters:

Process	Temperature (ºC)	Time (min)	Quenching	Hardness after Age Hardening (HV)
Age Hardening	300	60	Air or in furnace	90

Technical Advice:

1. To avoid oxidation, the alloys must be covered with inert gas or yellow flame during casting.
2. Not more than 50 % of old material should be used for recasting.
3. The old material must be tumbled to remove the investment powder residue and oxides.
   The material is then pickled in dilute sulfuric acid (15 %) for 15 - 20 minutes to remove the rest of oxides.
4. The sprue should be placed at the thickest position. Additional sprue must be applied if necessary.
   Fluted sprue is preferred to avoid any turbulence.

Remarks: The information is for your reference only. The parameters should be adjusted according to the particular casting conditions.
If you have any technical questions, please do not hesitate to contact us.

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