

# TECHNICAL SPECIFICATIONS

# Heraeus

**Alloy Code:** **H-177R**      **Colour:** **3N Yellow**

**Suitable Karatage:** 18K

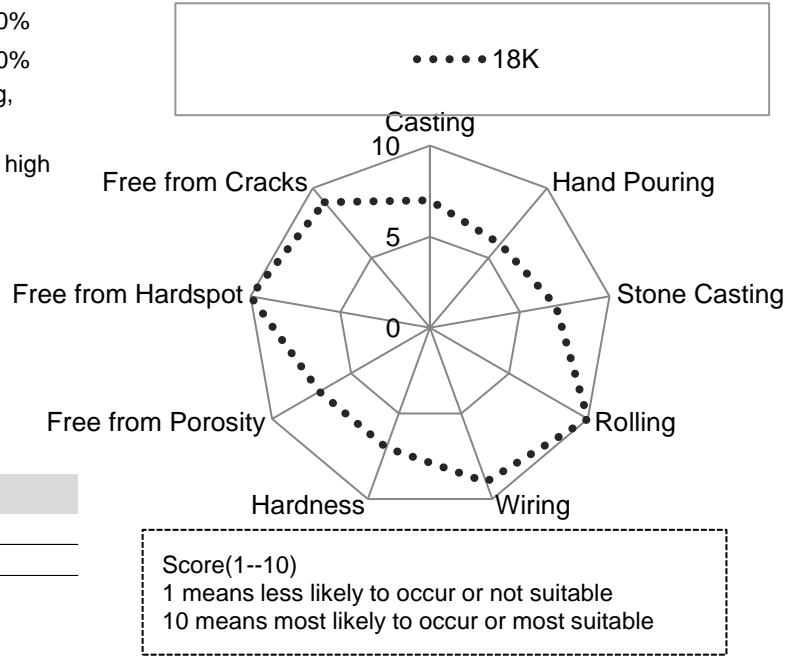
**Content :**    **Nickel:** 0.0%    **Palladium:** 0.0%  
                   **Silver:** 50.0%    **Platinum:** 0.0%

**Applications:** Suitable for loss wax casting, hand-making, stone casting

**Advantages:** Less porosity, low melt-loss, high ductility, high fluidity

**Melting Range (°C):**

18K	881 - 886
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**CIELAB Value :**

Karat	YI:D1925	L*	a*	b*
18K	41.7	87.6	1.2	21.8

**Mechanical Properties :**

Karat	Annealed Hardness (HV)	As Casted Hardness (HV)	Max. Strength (MPa)	Yield Strength (MPa)	Elongation (%)
18K	149	156	358	198	31

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

Karat	Metal Casting Temperature (°C)	Vacuum-assisted Casting Investment Temperature (°C)		
		Thickness of work piece (mm)		
		Thin (<0.5)	Medium (0.5~1.1)	Thick (>1.1)
18K	970-990	660-720	580-660	460-580

**Recommended Mechanical Working Parameters:**

Recommended Annealing Temperature (°C)	Annealing Time for thickness (min)	< 1 mm	1 - 5 mm	> 5 mm
H-177R	600 - 650	30	35	40

Process	Casting Temperature (°C)	Recommended Reductions
Ingot	960 - 1000	Sheet Thickness % 70
Continuous Casting	980 - 1040	Wire Diameter % 45

**Technical Advice:**

- To avoid oxidation, the alloys must be covered with inert gas or yellow flame during casting.
- Not more than 50 % of old material should be used for recasting.
- 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.
- 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.