Zirconium Zr705

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Discover the Truth of Material

Purpose:

Sample preparation method of zirconium alloy.
Zirconium Zr705, compared to traditional metals like iron, copper, and nickel, exhibits lower density, reduced thermal expansion coefficient, smaller thermal neutron absorption cross-section, and excellent corrosion resistance. These properties make zirconium and its alloys highly promising for specialized applications in nuclear, aerospace, and other industries. Samples undergo mounting (TJ-2568 epoxy resin), grinding, and polishing (Alpha-610).

Recommended Equipment and Consumables (select grinding/ polishing consumables based on sample conditions):



ThetaMount Pressure Cold Mounting Machine

Cold Mounting

Equipment	ThetaMount Pressure Cold Mounting Machine	
Cold mounting resin	TJ2568 Epoxy Resin	A: Order No: 02.04.855
		B: Order No: 02.04.856
Mixing ratio	A: B=4.5:1	
Curing Time	45-90min	

Recommended parameters for different specimen size				
Sample size/ diameter (mm)	25	30	40	50
Individual force loading mode, individual sample pressure force (N)	-5	0	+(5~10)	+(5~10)

Standard pressure: ϕ30mm (adjust according to sample size).

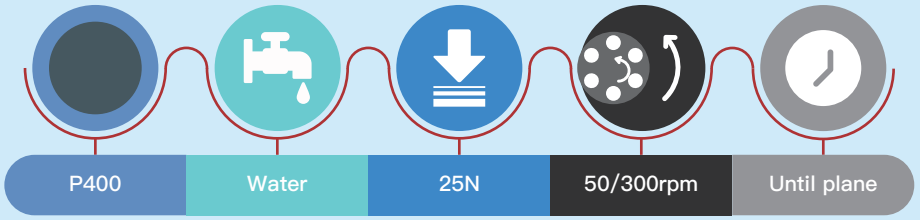
Basic Guide

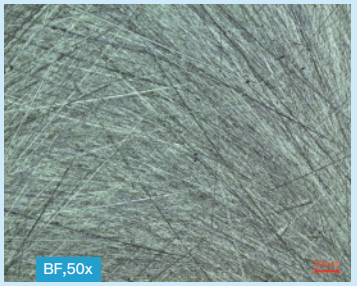
- **Mounting** Use TJ-2568 cold-curing resin with high edge retention, paired with the ThetaMount Pressure Cold Mounting Machine.
- **Grinding**
  1.Perform coarse grinding using P400 SiC sandpaper/lapping discs until the sample surface is flat and cutting damage is fully removed.
  2.Continue grinding with a POS disc and 9 μm diamond polishing suspension.
  3.After each grinding step, rinse the sample and sample holder with water.
- **Polishing**
  1.Clean the polishing cloth, sample holder, and hands before polishing. Repeat cleaning after each step.
  2.Do not mix polishing disks with different abrasive particle sizes.
  3.Rinse the sample surface with alcohol and dry with a blower to remove water residue.
  4.After each polishing step, inspect under a metallographic microscope to ensure scratch size matches the abrasive grit and direction is random.
  5.If residual scratches remain after SC polishing, increase polishing time by 3—5 minutes.
  6.Clean polishing cloths with running water and a soft brush after use, then air-dry.

Preparation Procedure——Zirconium Zr705

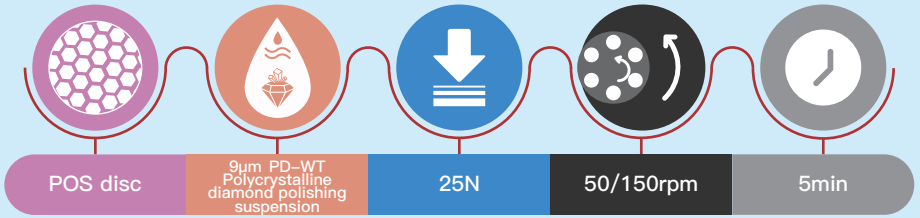
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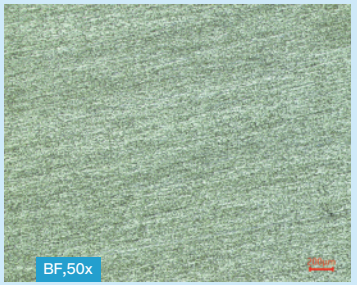
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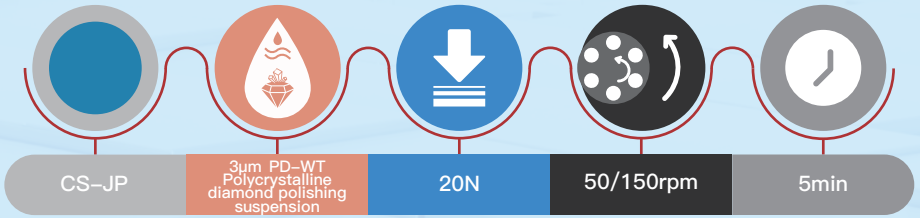


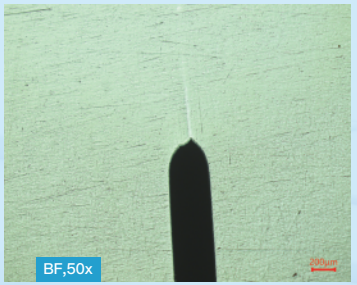
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