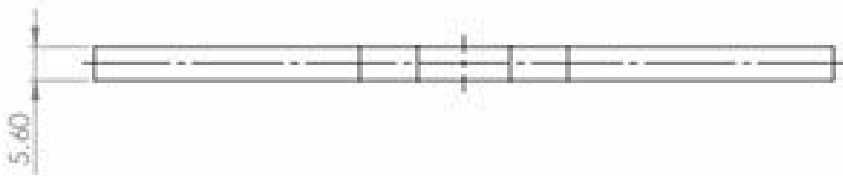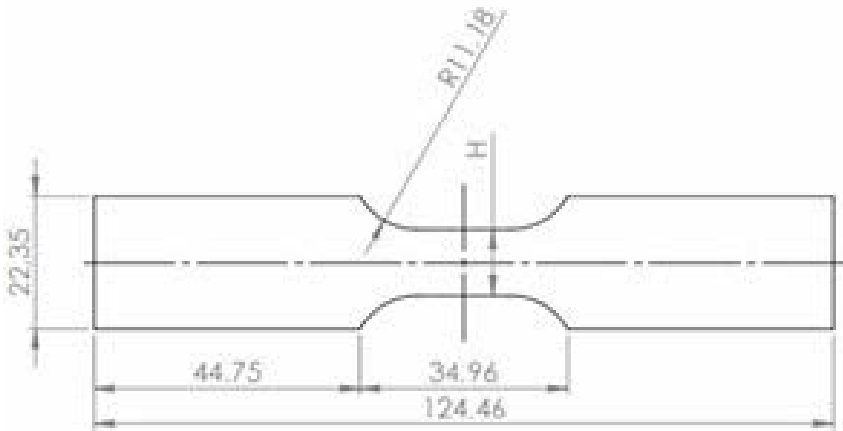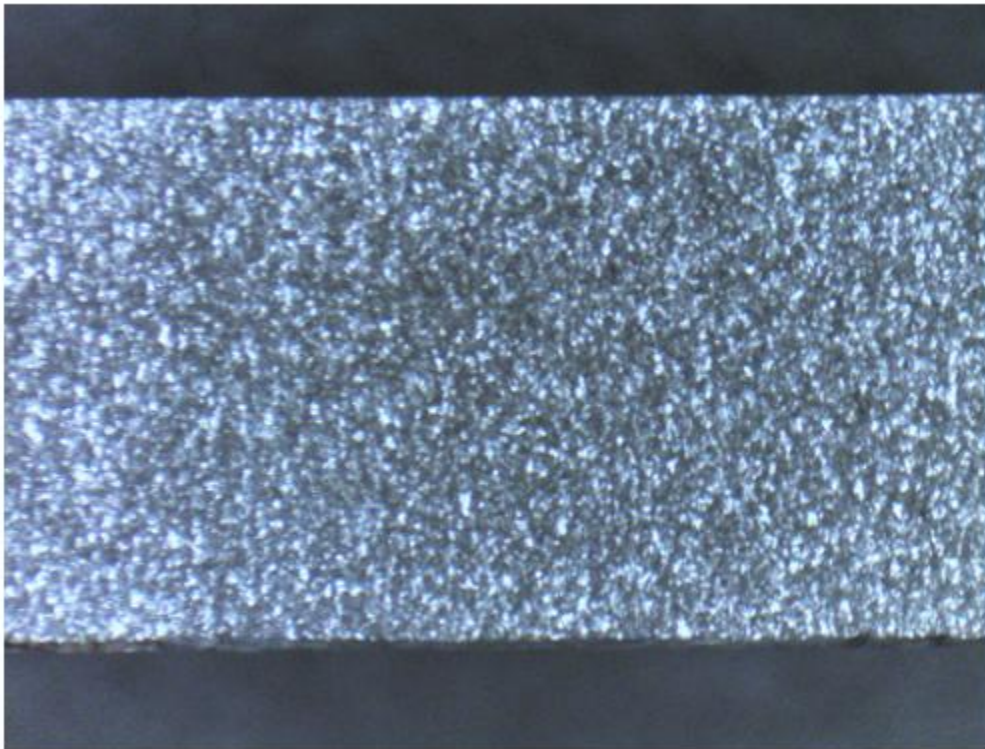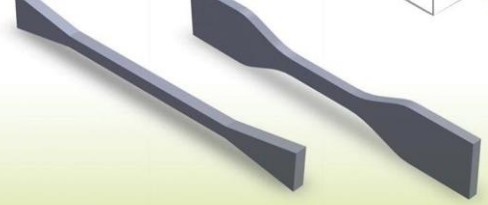## TITLE: Trial polishing

1. Material - AL-2219
2. Material Removal - Remove the final 0.025 mm by polishing longitudinally to impart a maximum of 0.2 μm surface roughness.
3. Polishing Procedure - ASTM E606/E606M, Appendix X3.2 for ALL sides
4. We will be performing visual roughness evaluation
5. ASTM E606/E606M, Appendix X3.2

1. Flat Specimen Characteristic

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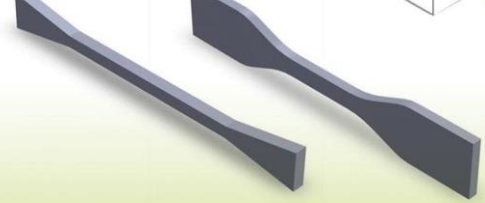Toll Free: +1 (877) 672 2622 | Fax: 775−981−9041 | sales@tensilemillcnc.com | www.tensilemillcnc.com

Pic. 2. Specimen 5 "H" - before polishing

Pic. 3. Specimen 5 surface - before polishing

2. Polishing Procedure

Tab.1. Spec 5, Step 1 polishing

STEP 1 Sandpaper grit	P180
Contact Force	10 N
Polishing Speed	6000 mm/min
Polishing cycles per side	25

b. STEP 2

Tab.2. Spec 5, Step 2 polishing

STEP 2 Sandpaper grit	P600
Contact Force	10 N
Polishing Speed	6000 mm/min
Polishing cycles per side	40

c. STEP 3

Tab.3. Spec 5, Step 2 polishing

STEP 3 Sandpaper grit	P1200
Contact Force	10 N
Polishing Speed	6000 mm/min
Polishing cycles per side	120

d. STEP 4

Tab.4. Spec 5, Step 4 polishing

STEP 4 Sandpaper grit	P2000
Contact Force	10 N
Polishing Speed	6000 mm/min
Polishing cycles per side	120

Pic.4. Specimen 5 after step 4 - 0.1mm removal

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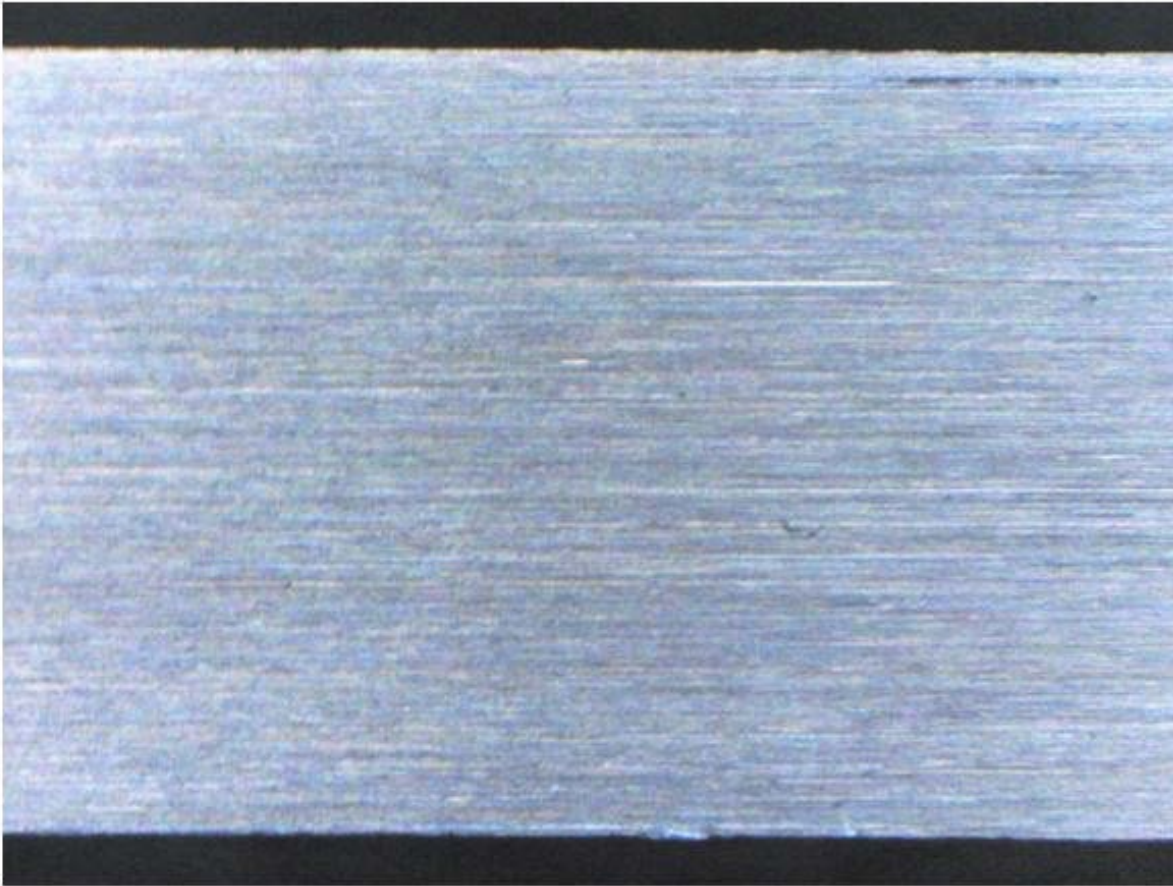
Pic.5. Specimen 5 surface after step 4 - 0.1mm removal - microscope photo

Ad.6. "Material Removal - Remove the final 0.025 mm by polishing longitudinally to impart a maximum of 0.2 μm surface roughness." - 0.025mm came out definitely too little. After 0.07 mm cavities were still visible so we decided to polish further and somewhere about 0.1 mm cavities started to disappear.
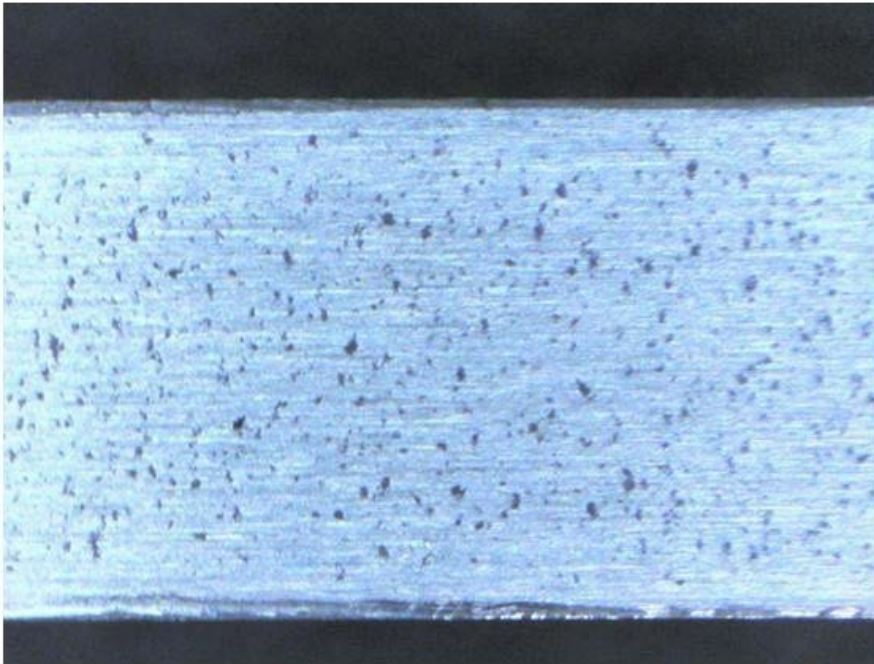
Pic.6. Specimen 5 surface after removal of 0.07mm
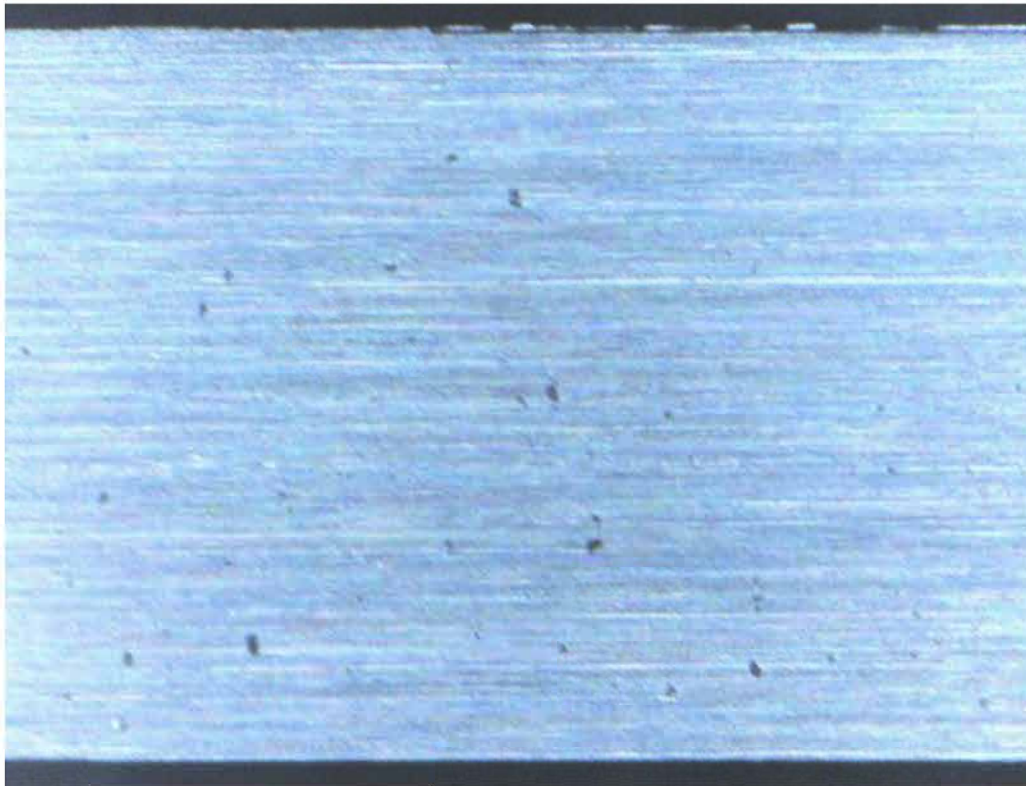
Pic.7. Specimen 5 surface after removal of 0.07mm - microscope photo
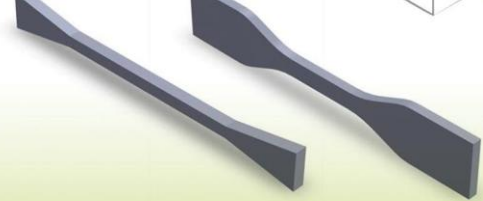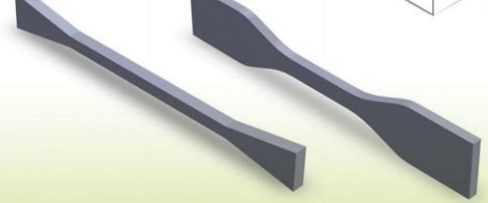
3. Polishing depth

Specimen 8 was polished only 0.04 mm to show the cavities left

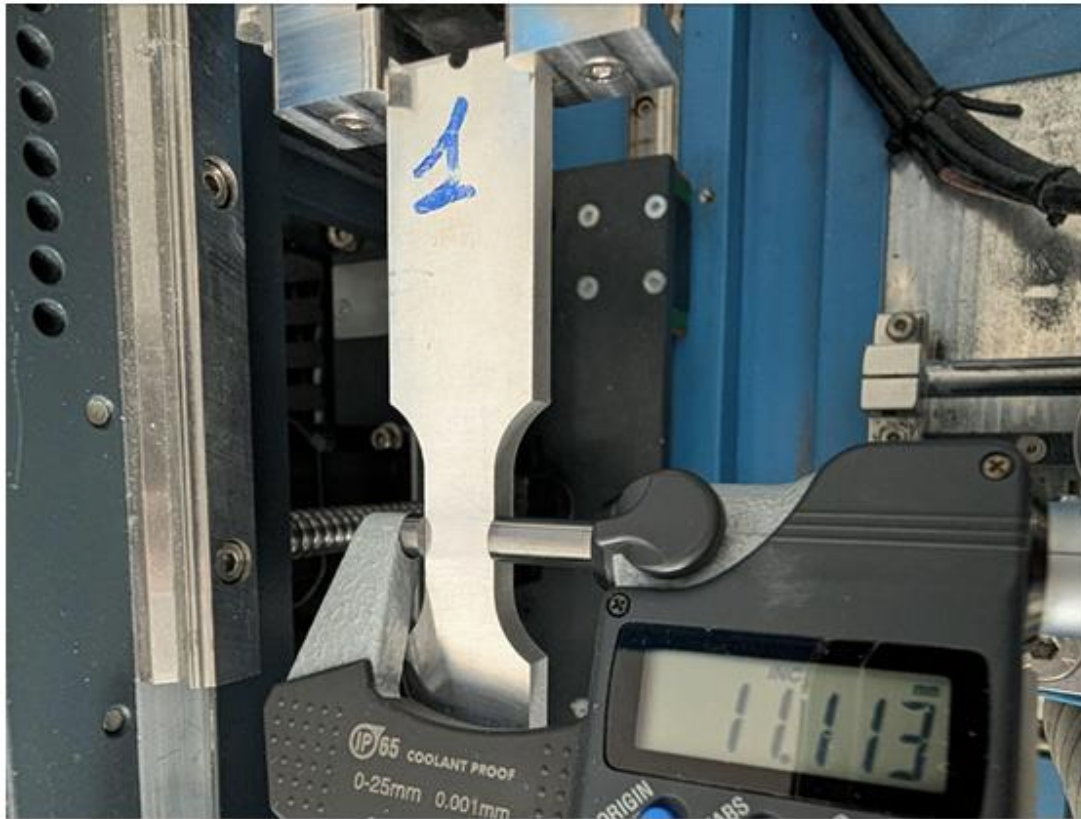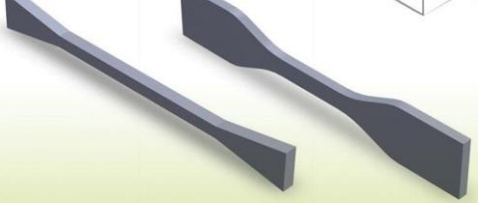*Pic.8. Specimen 8 surface after removal of 0.04mm - microscope photo*

Pic.9. Specimen 8 surface after removal of 0.04mm

4. Additional Info

4.1. Specimens 1, 2, 3, 4, 7 had slightly inclined cut surfaces before starting the polishing process – see the photos below.

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