

Feb/04/2004

## **AlBeMet & Beryllium Fabrication Specs**

Mac Tek, Inc.  
18 Chuck Drive  
Dracut, MA 01826  
Attn: Stephen Hersom

Dear Steve,

I am attaching a REFINED specimen description for the **AlBeMet** and **Beryllium** specimens with a **REVISED** total number of specimens.

After reviewing the experimental set-up and the availability of volume of material we can put in the proton beam, the following quantities of specimens will be necessary:

**AlBeMet** TENSILE specimens = **30**  
**AlBeMet** CTE specimens = **10**  
**Beryllium** TENSILE specimens = **30**  
**Beryllium** CTE specimens = **10**

The dimensions and tolerances are shown on the corresponding figures, including the number of specimens we will need to fabricate for each type.

### **NOTE-1**

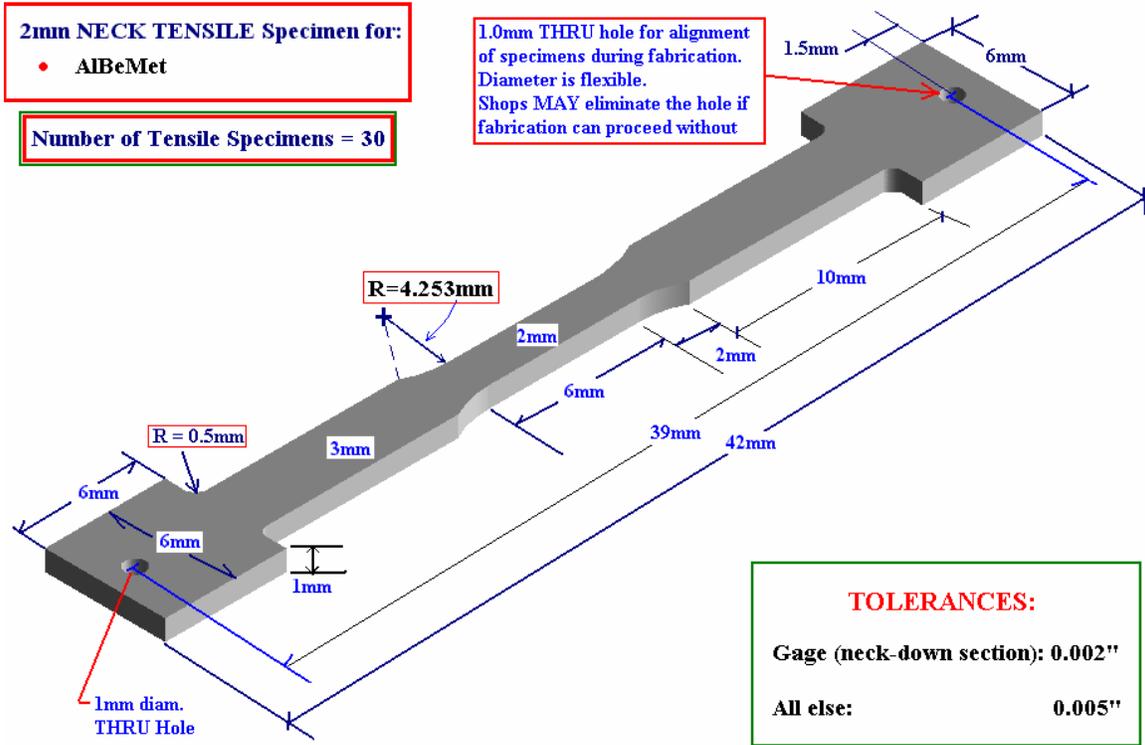
- The tensile specimen **thickness** for both materials = **1mm**
- **The CTE** specimen thickness for both materials = **3mm**
- The **neck-down** section for both tensile specimens = **2mm**
- The corresponding central section of the CTEs = **4mm**

### **NOTE -2**

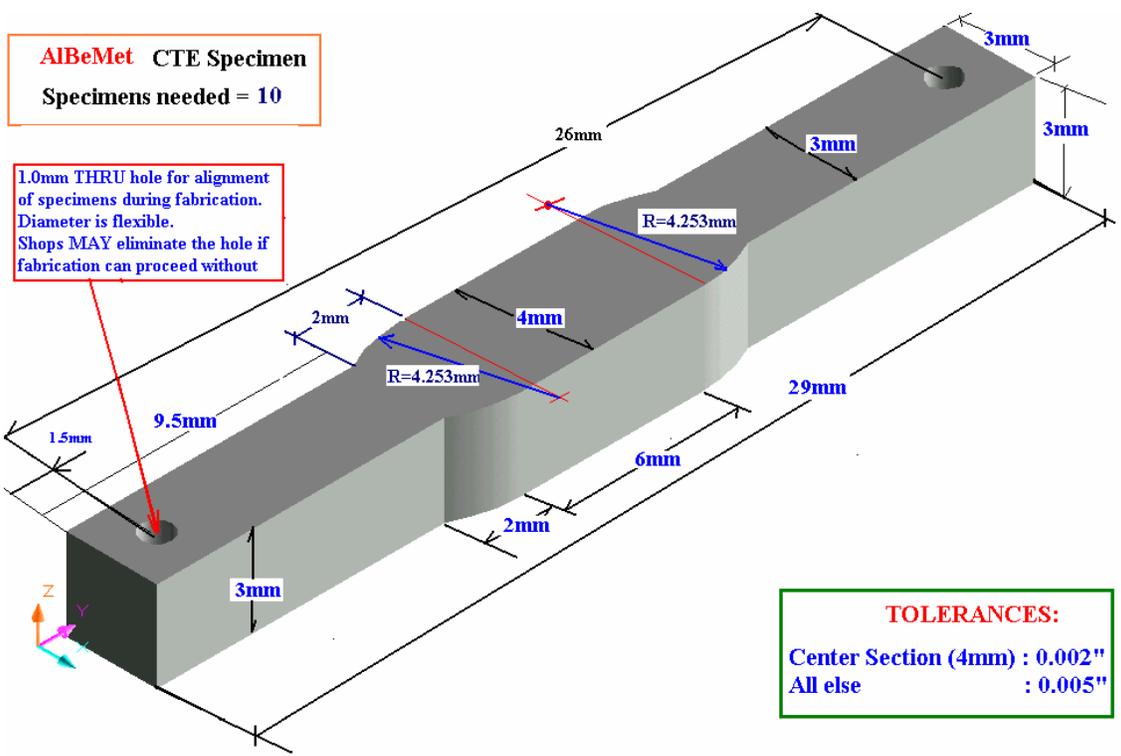
The alignment 1.0mm diameter THRU holes are there to assist the fabrication. If the machine shop feels that they can do it without the holes, then the holes can be ignored. If the holes must be made, the diameter DOES NOT have to be 1.0mm but something close to it that is achievable at the shop.

### **NOTE-3:**

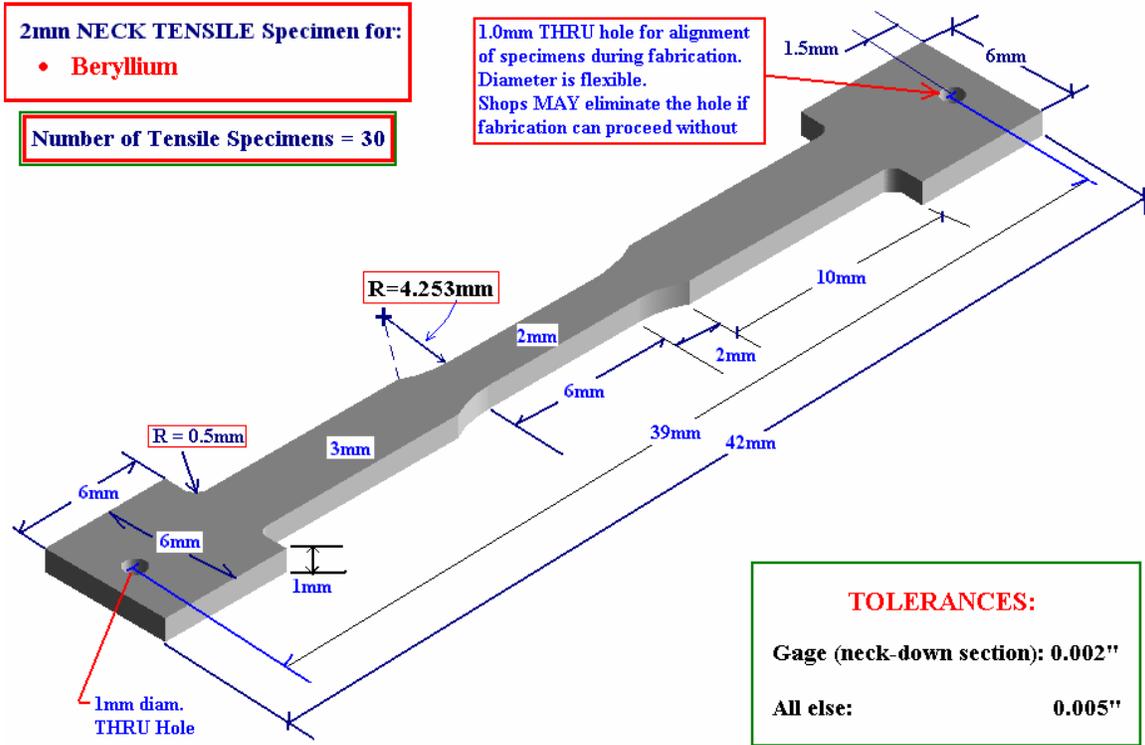
Since we cannot work on these specimens after we receive them, and in an effort to be able to identify each specimen based on its position in the irradiation assembly box (after we take them out in the hot cell) we are trying to come up with a marking scheme (such as a bar code made of small lines on the surface, or a combination of small blind holes). I spoke with Donald today regarding that and he indicated it is not a problem. Rather than waiting for the marking scheme to be finalized, include the marking cost and send me the final cost so I can proceed with issuing the purchase order.



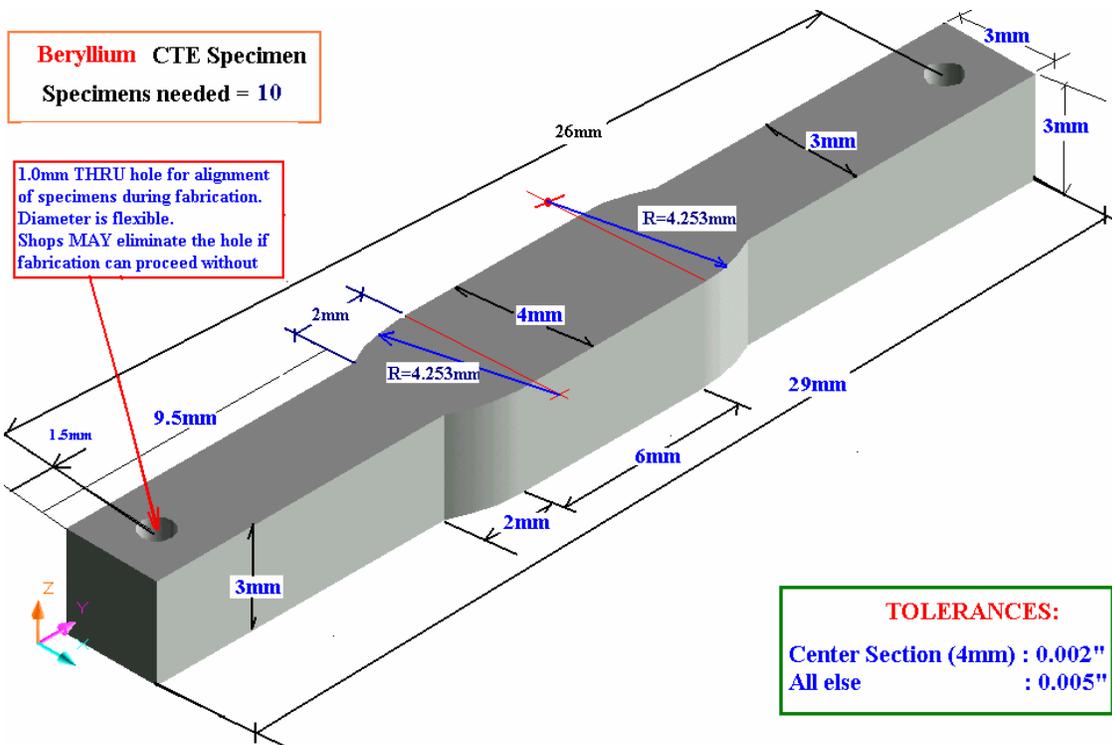
**Figure 1. AlBeMet Tensile Specimen**



**Figure 2. AlBeMet CTE Specimen**



**Figure 3. Beryllium Tensile Specimen**



**Figure 4. Beryllium CTE Specimen**