

Teleconference Call Summary

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Thursday, 10/28/99, 10:30am

1. Can the results from texture analysis be used to qualify substandard material? For example, can substandard material be found acceptable:

NO ⇒ Spec will determine.

are acceptable for basal poles  
 i. from partial direct pole figures (i.e.,  $\phi > 60^\circ$ , the specimen tilt angle measured from the surface normal)

I ⇒ 0 beyond  $\phi > 50$   
 ⇒ difficult to get 0002 beyond  $\pm 45$

need to get I data up to

yes, basal pole fig. I in  $\phi \Rightarrow$  no problem.

⇒ yes, would be able to see a non-typ. texture

ii. if only one test specimen is prepared (i.e., the RD specimen) vs. 3 orthogonal specimens

don't need 3 orthogonal ⇒ need 3 to construct whole pole fig...  
 as long as I is concentrated around RD in a TD-LD pole fig

iii. even though the maximum intensity,  $I_{max}$ , and the location of the basal plane maxima,  $\phi_{RD}$ ,  $\pm 35^\circ$  on a RD-TD (i.e., radial direction-transverse direction) direct pole figure are within the expected ranges

1.000 ← should be a spec

$\phi_{max} \rightarrow$  Intensity ⇒ substandard material may have lower I than for good mat'l

manufactures spec of  $I_{max}(\phi_{max}) = 5.0 \times \text{random}$  vs.  $2.5 \times \text{random} \Rightarrow$  # of basal poles oriented to RD

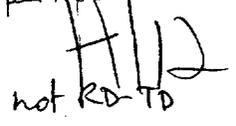
2. What effect does obtaining data from the shoulder of a 2-theta peak (i.e.,  $0.5^\circ$  away from the maximum intensity) have on a direct pole figure?

⇒ effects not much; may affect intensity slightly...  
 ⇒ width of peaks ⇒ may vary, don't know

3. Regarding direct pole figures, what would be an acceptable variation in peak intensity (at 2-theta) and location of the basal plane maxima from one sample to another? No, don't know.

$\phi = 35 \pm 2^\circ$  depends } Maximum ⇒ specified } man based on mechanical Properties

4. Have you ever seen pole figure data where the basal planes (i.e., the (0002) planes) are positioned  $\pm 35^\circ$  from the longitudinal direction of a tube specimen on a RD-TD direct pole figure? How would the mechanical properties of cladding with this type of texture differ from cladding material with a basal pole maxima located  $\pm 35^\circ$  from the RD (on a LD-TD direct pole figure)? Anisotropy will be different. YS



No ⇒ need to do complete pole figure \* relative property in 1 specimen \* not from 1 sample to another  
 $\sigma_{45}^{HTS}$  vs  $\sigma_{15}^{HTS} \Rightarrow$  will be different, relatively speaking

Summarize conclusion: