

Draft Minutes

ASC OP/TF 2 – Committee for Optics and Electro-Optical Instruments – Appearance Imperfections Standard Meeting

Sunday, February 8th, 2015
11:00 - 15:30 PST

1. Welcome and Introductions

Gordon Boulton called the meeting to order at 11:06 PST with introductions. In attendance were Dave Aikens, Marla Dowell, Patrick Augino, Donna Howland, Allen Krisiloff, Doug Wilgis, Trey Turner, Charles Gaugh, Walt Czajkowski, Hal Johnson, Dan Palmari and Leonard Hanssen. Quorum was established.

2. Approval of the agenda

Dan Palmari motioned to accept version 2 of the agenda. The motion was seconded by Allen Krisiloff and the motion passed.

3. Approval of the minutes for the October meeting

Donna Howland moved that we accept version 2 of the minutes from the previous meeting. Hal Johnson seconded, and the motion carried.

4. Status of ISO scratch-dig standards (10110-7 and 14997)

Dave Aikens reported that the project to add the ANSI scratch and dig standard continues to proceed well, and the new version has been circulated as a CD, and is now being balloted for DIS and is expected to pass, but likely with more comments and changes. The difference between the current ISO version of the appearance standard and our version is that the ISO version will require the user to identify the comparison standard to be used on the drawing using a note. It will also define the brightness of the illumination conditions for inspection in lux rather than call out wattage, and to remove all mention of the SavvyInspectorTM or the Army.

5. Current standard status and the need to revise OP1.002

Dave Aikens explained that we did not need to vote to reaffirm the 2009 edition if we had decided to go ahead and revise it. Since we knew that Allen Krisiloff and other members of the committee were working on a new proposed draft, he filed the PINS with ANSI to revise the standard and it was approved. We can begin discussions of the new draft at this meeting, but we shouldn't take too long to get this new version out.

6. Review of project leader's proposed new draft of OP1.002 revision

Gordon Boulton summarized the previous discussions regarding a possible revision which have been going on and off since 2010. We all agreed that it was time to formalize these discussions with a real proposal.

Allen Krisiloff announced that he had finished his proposed draft revision of the OP1.002 based on discussions with Gordon Boulton, Dave Aikens, John Hamilton and others in the community. He explained that the new draft is a significant rewrite of the document in both form and layout, but that the technical content was meant to be kept the same. Even so, it is a significant departure from the 2009 edition, and we will need to review it carefully to make sure we have not inadvertently changed any of the technical content. The new draft had been posted to the website earlier in the month and most people at the meeting had already reviewed it.

Marla Dowell mentioned that the CIE had also revised their brightness standard, and we may want to synchronize with them.

Allen Krisiloff asked if there were any specific areas we should focus on, in the interests of time. We identified the following sections for review; Gordon's general comments, edge chips, the definition of sleeks, equipment allowed, disregard limits, and diamond turning features as imperfections.

Gordon's general comments: Gordon Boulton pointed out that, in the 2009 edition, we were able to specify inspection zones for different scratch and dig requirements, and that this edition seems to have lost that feature. We verified that, in ISO documents, this is referred to as "regions" and "fields" in various locations, while in the MIL-PRF-13830B and OP1.002:2009 it is referred to as "zones".

Action: Allen Krisiloff to review the specification of inspection zones in the 2009 edition and determine how best to incorporate this into the new draft.

Gordon also pointed out that in section 2.1.2.8 there is an error; the scratches and digs limit applies regardless of the specification. We reviewed the section and everyone agreed. Allen agreed to change this section to correct the error.

Gordon also drew our attention to section 2.1.1.4, and observed that the language of all the magnitudes and grades gets very convoluted and confusing. Again we reviewed it together and agreed that it was a problem, and again Allen agreed to try and make this section more readable.

Disregard limits: Dave Aikens pointed out that table 2.1.2.4.2 is a bit scary as written. He suggested that we consider adding a disregard limit to the digs, and possibly even to the scratches, to reflect common practice. We decided this was a good idea for the looser specifications, but not for the tighter ones. Allen agreed to make the change.

Definition of Sleeks: We discussed the concept of defining sleeks and making them distinctly separate from scratches. Most agreed that this was a good idea, but Trey Turner said that in some applications, this wasn't preferred. The committee converged on a new version of the sleek definition as:

"A sleek is a long surface feature that is narrow, faint, without evidence of conchoidal fracturing at the edges, only visible over a narrow range of angles, and is smaller than 0.003 mm wide and deep."

Trey Turner suggested we combine 2.1.1.1.2 and 2.1.1.1.3, but Allen explained that he wanted each concept to have its own section number for ease of reference on drawings.

Equipment allowed: Dave Aikens observed that section 2.1.1.5.5 could be misinterpreted, and should probably be struck. Everyone agreed.

Edge Chips: Dan Palmari observed that section 3.3.3 does not adequately limit the ways that edge chips could cause a problem. Doug Wilgis suggested that we could change this section to read "the profile of the part as projected onto the plane of the free aperture of the part remains unchanged."

There were many different opinions, but we seemed to converge on a requirement that any "sealing" requirement needed to be clearly articulated on the drawing.

Diamond turning features as imperfections: Dan Palmari asked if we could find some way to address the problem of the ogive point on a diamond turned part, as to whether it was or was not a surface imperfection. Section 2.1.1.1.4b could be modified to add a description to control diamond turning ogive errors by treating them as digs using a note.

We reviewed our list of subjects to be covered and found that we had covered all of them, although a bit out of order.

Gordon Boulton extended his compliments and gratitude to Allen on behalf of the committee for coming up with such a superb draft, despite the extensive revisions required.

Action: Allen Krisiloff to provide a new draft by 4/1/15

Action: Dave Aikens to circulate the new draft to the TF for ballot as a committee draft.

7. Any other new business and action items

There were no new items.

8. Time and place for next meeting

Hal Johnson moved that we next meet by conference call on Tuesday, August 25th, 2015 at 11:00 EDT. Charles Gaugh seconded and the motion carried.

9. Adjourn

At 15:42 Marla Dowell moved we adjourn. Trey Turner seconded and the motion carried.