



Optics and Electro-Optics  
Standards Council

Memo to be addressed to Mark Lindenbaum, Terry Hill, Kirk Bristol, and James Waldradt, with copies to OP/TF2 membership.

Thank you once again for hosting our visit to ARDEC at Picatinney on April 2, 2009. OEOSC, and in particular Task force 2 (OP/TF2) its SDO (Standards Development Organization), would like to continue the dialog started in April by documenting some of the opportunities that are before us concerning MIL-PRF-13830B ("13830" in this memo).

OP/TF2 is trying to convert optics MIL standards and specs into national and international voluntary standards, and through that work has prepared an update of the surface quality portion of 13830, issued as ANSI/OP 1.002 ("1.002" in this memo). We are now in the process of incorporating a scratch width based section into that standard to close a gap in the scratch standardization set: 13830 covers scratch visibility evaluation on uncoated surfaces, its appendix C covers scratch visibility evaluation on MgF2 coated surfaces, MIL-C-48497A covers scratch visibility and width evaluation of multilayer coated surfaces, but no MIL specification or standard covers scratch width evaluation of uncoated surfaces or on MgF2 coated surfaces. 1.002 will cover both visibility and width evaluation of both coated and uncoated surfaces.

As part of writing these standards, OEOSC has attempted to follow 13830 closely. We have seen that changes in industry perspective and in technology have resulted in multiple interpretations of parts of 13830 that were clear when written. Because of this, we believe that incorporating some of the 1.002 wording into 13830 would make 13830 a more useful document both to the DoD procurement organizations and to their supplier base, who use 13830 extensively both for military and commercial applications.

We would also hope that 13830 and 1.002 would come into such close agreement that 1.002 could be endorsed by the DoD for use in situations where its scope was suitable for the application. OEOSC would like to see 1.002 converted into an ISO standard. ISO rules do not allow military standards to be used as the basis of ISO standards, but 1.002 can be the basis of an ISO standard since it is a national standard. With 1.002 as an intermediary, the scratch visibility portion of 13830 could gain international endorsement.

One of the clarifications that is needed in the use of 13830 is a reaffirmation that the scratches specified in 13830 are evaluated by scratch visibility, not by scratch width. A large portion of the 13830 user community interprets statements on various editions of drawing C7641866 to mean that scratches can be accepted or rejected based on scratch width regardless of their visibility when 13830 is the invoked specification. Attempts by various non-military groups to clarify this have not been accepted as authoritative, and we feel that only the Army custodians of 13830 have the authority and prestige to issue a clarification that will be accepted. Based on discussions around this issue in April at Picatinney, it sounds like a clarifying inter-service memo from the Army to procurement agencies in the other services would provide sufficient documentation if that memo could be shared outside of the DoD. OEOSC would be pleased to submit some suggested wording for such a memo for your consideration.

A third issue is the impending withdrawal of incandescent lamps "for commercial use" from the market. This is taking place over a few years beginning with the highest wattage lamps and will eventually eliminate the supply of the 40-watt lamp specified for inspection of uncoated surfaces in 13830. The logical replacement would be the 15-watt, dual fluorescent lamp specified in appendix C of 13830 for coated surfaces, however that lamp is now available in several variations and is not as specific a callout as it was when it was originally selected and there was only one type. OEOSC believes that there are other SDOs working in the lighting and illumination fields that could advise on this matter, and we suggest that this be one of the areas addressed as 13830 is clarified.

We look forward to the opportunity to work together to make 13830 a more useful document, and to assist in the adoption of 1.002 as an alternative document.