

## Template for comments and project leader observations

Date:	Document: <b>OP1.002 rev. 3 v16</b>	Project:
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Reviewer <sup>1</sup>	Section	Sub-section	Paragraph/ Figure/ Table/	Type of comment <sup>2</sup>	Comments	Proposed change	Project leader observations
RW	1	1.1	1	ed	One does not “state” a scratch. One “describes” or “denotes” a scratch; one “states” its magnitude.	Replace “stating” with “describing” or “denoting”	
Savvy Optics Corp.	1	1.5	Entirety	te	Since it is not possible to manufacture a visibility comparison set with this drawing, it should not be normative, and perhaps not even informative.	Delete section 1.5 in its entirety. Assuming we still wish to reference the drawing, we should add it to the bibliography instead.	
RW	2	2.1.1.1		ed	What “kind” of long or round surface imperfections are we talking about? How to discriminate them from wipe marks and dried droplets for example?	<p>“a scratch is defined as a score or furrow in the surface, much longer than it is wide”</p> <p>“a dig is a hollow or localized crush in the surface, of similar dimension in different directions”</p> <p>Or adapt the MIL-PRF definitions:</p> <p>“Scratch: any marking or tearing of the surface...”</p> <p>Dig: a small rough spot on the polished surface...”</p>	
Savvy Optics Corp.	2	2.1.2.1.1	Para 3	te	We need to take control of the scratch and dig standard, rather than reference an obsolete Army drawing.	Change the paragraph to read “The numbers are arbitrary, and do not represent any specific size, but reference a set of master scratches and digs that are retained by the US Army’s Armament Research, Development, and Engineering Center (ARDEC) at Picatinny Arsenal. See Annex E for specific requirements.”	
RW	2	2.1.2.2	2	ed	the grade of the defect doesn’t <i>represent the artifact</i> , the grade of the defect <i>is assigned the grade of the artifact</i> (of least-greater brightness.)	Rewrite: “The visibility grade assigned to an imperfection is the grade of the comparison artifact of least-greater brightness.”	
Savvy Optics Corp.	2	2.1.2.3	Para 1	ed	We should reference Annex E here	Add a sentence “See Annex E for specific requirements”	
GB	2	2.1.2.5		ed	There is an extra blank line after this paragraph and before the next paragraph	Delete the extra blank line but be careful—I <i>might</i> have tried this earlier and broke an auto-link.	

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GB	2	2.1.3.3		ed	There is an extra blank line after this paragraph and before the next paragraph	Delete the extra blank line but be careful—I <i>might</i> have tried this earlier and broke an auto-link.	
RW	3	3.2.1. et. Seq.		ed	Does not subordinate types of allowable chips to the overall discussion in proper outline form	3.2.1 Allowable edge chips 3.2.1.1 Intrusion 3.2.1.2 Interference Etc.	
RW	3	3.2.4		ed	“annoying” requires subjective emotion on part of inspector	Substitute “spurious”	
RW	Annex A			te	Grid lines incorrectly rendered in figures 2, 8, 11, 13	Recreate figures at some point in time. Do not delay publication for this.	
RW	Annex D	Entire		ed	An excellent addition, and very helpful to those using the document. My compliments to Trey Turner.		
Savvy Optics Corp	Annex E		Title	te	This section should be made normative; all visibility comparison standards must comply to the requirements in this Annex	Change parenthetical comment to (Normative Annex; this Annex contains requirements necessary for conformance to this standard)	
Savvy Optics Corp	Annex E		Para 1	te	We do not indicate anywhere that the visibility standard must be traceable to the Army limit standards.	Add a paragraph before the first paragraph: “Visibility comparison standards must be traceable to either a national standards organization or to the visibility limit masters which are retained at the Picatinny Arsenal. Whenever possible, objective methods, rather than subjective ones, should be used to verify traceability and compliance to the limit masters.”	
Savvy Optics Corp	Annex E		Para 2	ed	Any scatterometer can be used to certify the standards, not just the SIF-4. Also it is not clear that the Army uses a SavvyInspector SIF4 for certification of their own comparison sets to the limit masters.	Change the second to last sentence in the paragraph to read, “An alternative approach is to use a scatterometer. Beginning in 2011, the US Army modified the standard operating procedure to certify their visibility comparison sets to use such a system; specifically a SavvyInspector SIF-4 scatter measurement system. The equivalent...”	

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Savvy Optics Corp	Annex E		Para 3	te	We do not indicate the dig artifact size tolerances. If we did, then we would be free from any reference to C7641866, and manufacturers could make a comparison set which is compliant to "Annex E of ANSI/OEOSC OP1.002"	Add a new paragraph after table E2 that reads "For completeness, the tolerances on the size of the dig comparison standards are given in Table E-3."																			
Savvy Optics Corp	Annex E		Table 3	te	We do not indicate the dig artifact size tolerances. If we did, then we would be free from any reference to C7641866, and manufacturers could make a comparison set which is compliant to "Annex E of ANSI/OEOSC OP1.002"	<table border="1"> <thead> <tr> <th>Standard Dig</th> <th>Dig size, mm</th> <th>Dig tolerance, mm</th> </tr> </thead> <tbody> <tr> <td>No. 5</td> <td>0.05</td> <td>+/- 0.005</td> </tr> <tr> <td>No. 10</td> <td>0.10</td> <td>+/- 0.005</td> </tr> <tr> <td>No. 20</td> <td>0.20</td> <td>+/- 0.008</td> </tr> <tr> <td>No. 40</td> <td>0.40</td> <td>+/- 0.010</td> </tr> <tr> <td>No. 50</td> <td>0.50</td> <td>+/- 0.013</td> </tr> </tbody> </table> <p>Table E-3 Sizes and tolerances of the dig comparison artifacts.</p>	Standard Dig	Dig size, mm	Dig tolerance, mm	No. 5	0.05	+/- 0.005	No. 10	0.10	+/- 0.005	No. 20	0.20	+/- 0.008	No. 40	0.40	+/- 0.010	No. 50	0.50	+/- 0.013	
Standard Dig	Dig size, mm	Dig tolerance, mm																							
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Savvy Optics Corp	Annex E		Para 3	te	If we do not publish our own version of the drawing C7641866, we should remove the reference to it.	Replace this paragraph with "While C7641866 shows a specific physical configuration for the standards, the exact form factor, size, and shape of the comparison artifact set is not important. What matters is the brightness and appearance of the scratches and digs, and that they be traceable to the Army limit masters."																			
Savvy Optics Corp	Annex F		Entire	ed	We should provide the full titles of each of the referenced documents and their published dates	Add full titles of each of the references, for example "6 MIL-PRF-13830B General Specification Governing the Manufacture, Assembly, and Inspection of Optical Components for Fire Control Instruments"																			
Savvy Optics Corp	Annex F		Entry 7	ed	Assuming we remove section 1.5, we should add the drawing to the bibliography	Add item "7. US Army Drawing C7641866 Surface Quality Standards for Optical Elements – Scratch and Dig. Revision R."																			

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