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Nota di contenuto	Preface -- 1. Purpose -- 2. Glossary -- 3. Environmental durability of optical coatings: 3.1. Common durability requirements for optical coatings; 3.2. Laser damage threshold durability for optical coating; 3.3. Windscreen wiper test; 3.4. Rain erosion test; 3.5. Optical coating durability in industrial oils and fuels; 3.6. Durability testing of coating on actual component - when? 3.7. Visual inspection/examination -- 4. Characterization of optical coatings: 4.1. Functionality of the coating; 4.2. Spectral region of the coating -- 5. Factors impacting the quality of the coating: 5.1. Coating materials' composition; 5.2. Raw material of the element's substrate; 5.3. Optical performance; 5.4. Environmental durability for which the coated element should be resistant; 5.5. Size and shape of the element; 5.6. Cleaning of the optical surfaces; 5.7. Additional factors -- 6. Environmental durability: equipment, tools, and materials for testing: 6.1. Equipment and tools; 6.2. Materials -- 7. Quality and safety aspects: 7.1. Quality aspects; 7.2. Safety aspects -- 8. Environmental durability requirements and test conditions according to accepted standards and specifications: 8.1. MIL-M-13508C (1973); 8.2. MIL-F-48616 (1977); 8.3. MIL-C-48497A (1980); 8.4. MIL-C-14806A (1969); 8.5. MIL-C-675C (1980); 8.6. MIL-PRF-13830B (1997); 8.7. MIL-STD-810G (2008); 8.8. ISO 9211-3 (2010); 8.9. TS-1888 (1979) -- 9. Examples of failed coatings on witness samples or elements during environmental durability test --

10. Summary -- Appendix: List of publications -- Acknowledgments.

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Sommario/riassunto

This Spotlight gives a general overview of the durability of optical coatings and various durability tests referring to available civilian and military standards and specifications. It will allow a quick detection of the coating testing durability requirements and test conditions in MIL-Specs and other standards or specifications according to requirements defined in the relevant drawings or coating specifications. Intended for optical designers, this Spotlight is also useful for optical coating inspectors.

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