

Guide for Illumination of Industrial Coating Projects

©2023 Association for Materials Protection and Performance (AMPP). All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means (electronic, mechanical, photocopying, recording, or otherwise) without the prior written permission of AMPP.

Guide for Illumination of Industrial Coating Projects

This AMPP Guide represents a consensus of those individual members who have reviewed this document, its scope, and provisions. Its acceptance does not in any respect preclude anyone, whether he or she has adopted the Guide or not, from manufacturing, marketing, purchasing, or using products, processes, or procedures not in conformance with this Guide. Nothing contained in this AMPP Guide is to be construed as granting any right, by implication or otherwise, to manufacture, sell, or use in connection with any method, apparatus, or product covered by letters patent, or as indemnifying or protecting anyone against liability for infringement of letters patent. This Guide represents minimum requirements and should in no way be interpreted as a restriction on the use of better procedures or materials. Neither is this Guide intended to apply in all cases relating to the subject. Unpredictable circumstances may negate the usefulness of this Guide in specific instances. AMPP assumes no responsibility for the interpretation or use of this Guide by other parties and accepts responsibility for only those official AMPP interpretations issued by AMPP in accordance with its governing procedures and policies which preclude the issuance of interpretations by individual volunteers.

Users of this AMPP Guide are responsible for reviewing appropriate health, safety, environmental, and regulatory documents and for determining their applicability in relation to this Guide prior to its use. This AMPP Guide may not necessarily address all potential health and safety problems, or environmental hazards associated with the use of materials, equipment, and/or operations detailed or referred to within this Guide. Users of this AMPP Guide are also responsible for establishing appropriate health, safety, and environmental protection practices, in consultation with appropriate regulatory authorities, if necessary, to achieve compliance with any existing applicable regulatory requirements prior to the use of this Guide.

CAUTIONARY NOTICE: AMPP Guides may be revised or withdrawn at any time in accordance with AMPP standards committee procedures. The user is cautioned to obtain the latest edition. Purchasers of AMPP Guides may receive current information on all AMPP publications by contacting AMPP Customer Support, 15835 Park Ten Place, Houston, TX 77084-5145 (Tel: +1 281-228-6200, email: customersupport@ampp.org).

Document History:

2023-02-09: Revised by AMPP Standards Committee (SC) 24, Environmental Health and Safety (EHS)/Regulatory

2016-10-03: Revised by legacy SSPC C.5.1.D, Guide 12 Revision

2004-11-01: Editorial Revisions

1998-06-01: Approved by legacy SSPC C.5.1.D, Illumination of Industrial Coatings Projects

AMPP values your input. To provide feedback on this guide, please contact: standards@ampp.org

SSPC-Guide 12-2023

©2023 Association for Materials Protection and Performance (AMPP). All rights reserved.

Guide for Illumination of Industrial Coating Projects

Foreword, Scope, Rationale	4
Referenced Standards and Other Consensus Documents	4
Section 1 General	5
Section 2 Definitions	5
Section 3 Environmental Lighting and Safety Considerations	6
3.1 Environmental Safety Considerations	6
3.2 Selection of Luminaires	6
3.3 Supplemental Illumination Recommendations	7
Section 4 Illumination Intensities	7
Section 5 Lighting Equipment Use and Maintenance	8
Section 6 Explosion Hazard Classifications	8
Other Referenced Documents	9
Appendix A Light Levels for Coating Inspection Using UV-A Light (“Black Light”) Devices (Nonmandatory).....	10
Tables	
Table 1 Work Area Illumination Requirements In Lux (Foot-Candles)	7
Table 2 Maximum Luminance Ratios	8

Foreword

Achieving acceptable levels of illumination by natural or artificial means in the industrial painting industry is complicated due to the complexity of structures, vision-inhibiting dust, and potentially hazardous concentrations of explosive dust or solvent vapors.

Illumination standards have been established for most industrial applications by the Illuminating Engineering Society (IES) RP-7.

Within the U.S., compliance with National Fire Prevention Association (NFPA) and U.S. Occupational Safety and Health Administration (OSHA) regulations is required to ensure the safety of personnel and equipment in industrial coating projects. The user of this guide is encouraged to consult their national, regional, or local requirements for safety requirements.

Within the U.S., illumination equipment for use in industrial coating projects must be compliant with Underwriters Laboratories (UL) standards specific to the environmental conditions of equipment usage.

This guide is intended to provide project specification writers, industrial coating contractors, and inspectors with recommendations for selecting the proper illumination equipment and illumination levels for general work activities, as well as for performing surface preparation, coating application and inspection during an industrial coating surface preparation and application project.

Scope

This guide provides information for providing the quantity and quality of lighting on industrial coating projects that is conducive to achieving quality surface preparation and coating application, productivity, inspection/quality control, and accident prevention.

These guidelines are intended to be used by facility owners, specifiers, designers, and contractors.

Rationale

Illumination standards have been established for confined spaces in ANSI/ASSP Z117.1 and for industrial facilities by ANSI/IES RP-7. This guide provides facility owners, specifiers, designers, and contractors with a compendium of information on best practices for illumination of general work areas and specific tasks performed during surface preparation, coating application, and inspection activities, both in fixed shop facilities and in the field.

Referenced Standards and Other Consensus Documents

The latest edition, revision, or amendment of the referenced standards in effect shall govern unless otherwise dated.

AMPP/NACE/SSPC Standards, www.ampp.org:

SSPC-TU 11 Inspection of Fluorescent Coating Systems

American Society of Safety Professionals (ASSP), www.assp.org:

ANSI/ASSP Z117.1 Requirements for Entering Confined Spaces

ASTM International, www.astm.org:

ASTM E3022 Standard Practice for Measurement of Emission Characteristics and Requirements for LED UV-A Lamps Used in Fluorescent Penetrant and Magnetic Particle Testing