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SUBJECT 50V

OUTLINE OF INVESTIGATION

FOR

INFRARED VIEWPORTS

ISSUE NUMBER: 1

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Summary of Topics

This is the First issue of the Outline of Investigation for Infrared Viewports, Subject 50V. Infrared (IR) viewports are intended for factory installation in doors or walls of electrical enclosures for installation in ordinary (non-hazardous) locations to allow the use of IR scanners for monitoring temperatures of the enclosed equipment on which the viewport is installed, without compromising the integrity of the enclosure with respect to access to live parts.

The UL Foreword is no longer located within the UL Standard. For information concerning the use and application of the requirements contained in this Standard, the current version of the UL Foreword is located on ULStandardsInfoNet at: <http://ulstandardsinfo.net/ulforeword.html>

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INTRODUCTION

1 Scope

1.1 Infrared (IR) Viewports are a fixed aperture, consisting of one or more openings or a solid infrared transmitting media, surrounded by a mounting bezel or frame, that provide a means for the passage of infrared radiation. Infrared viewports are intended for factory installation in doors or walls of electrical enclosures for installation in ordinary (non-hazardous) locations to allow the use of IR scanners for monitoring temperatures of the enclosed equipment on which the viewport is installed, without compromising the integrity of the enclosure with respect to access to live parts. Viewports may be investigated for installation in Type 1 enclosures or enclosures with other environmental ratings.

1.2 Compliance with these requirements does not assure that the infrared viewport is suitable for use as a component of an end product. For example, accessibility of live parts is investigated with respect to industrial products rated 600 V and below, and additional investigation may be required for products rated over 600 V.

1.3 The acceptability of an infrared viewport in any particular application depends upon its suitability for continued use under the conditions that prevail in actual service. Accordingly, for a particular application an infrared viewport may be affected by the requirements for the equipment in which it is used, and it may be necessary to additionally evaluate that infrared viewport for features or performance characteristics that are not specified in this Outline of Investigation.

1.4 These requirements do not cover the field installation of infrared viewports on enclosures of electrical equipment already in service.

1.5 These requirements do not cover viewports made from glass or translucent polymeric materials intended for passage of visible light for observation of internal electrical equipment by operators or service personnel.

2 Units of Measurement

2.1 Values stated without parentheses are the requirement. Values in parentheses are explanatory or approximate information.

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3 Components

3.1 Except as indicated in 3.2, a component (including gaskets and polymeric materials) of a product covered by this outline of investigation shall comply with the requirements for that component.

3.2 A component is not required to comply with a specific requirement that:

- a) Involves a feature or characteristic not required in the application of the component in the product covered by this outline of investigation, or
- b) Is superseded by a requirement in this outline of investigation.

3.3 A component shall be used in accordance with its rating established for the intended conditions of use.

3.4 Specific components are incomplete in construction features or restricted in performance capabilities. Such components are intended for use only under limited conditions, such as certain temperatures not exceeding specified limits, and shall be used only under those specific conditions.

4 Undated References

4.1 Any undated reference to a code or standard appearing in the requirements of this outline of investigation shall be interpreted as referring to the latest edition of that code or standard.

CONSTRUCTION

5 General

5.1 An infrared viewport that forms part of the enclosure shall be reliably secured by hardware supplied with the viewport in such a manner that it cannot be readily displaced in service, and shall provide mechanical protection for the enclosed parts.

5.2 An adhesive relied upon as the sole means for securing a part closing an opening in an enclosure shall comply with the requirements for adhesives in the Standard for Polymeric Materials – Use in Electrical Equipment Evaluations, UL 746C when applied to the materials to be secured.

5.3 A sealing compound relied upon as the sole means for securing a part closing an opening in an enclosure shall comply with 5.2 or the Accelerated Aging Test for sealing compounds described in the Standard for Industrial Control Equipment, UL 508.

5.4 All hardware, gaskets, or other parts needed to complete the installation shall be provided with the infrared viewport.