NEMA BIM 100-2021 White Paper

BIM Content for Electrical Products: Current Status and Industry Needs

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7. Conclusions and Recommendations

Current BIM authoring tools and BIM object libraries provided by electrical product manufacturers have wide variation in the support of electrical systems design workflows. The primary barriers for adoption are the complexity, lack of common data definitions, and inconsistency in the availability of data in BIM object libraries.

The IFC data model, Revit Parameters, and CIBSE Product Data Templates contain an extensive list of data elements and properties for BIM interoperability of electrical product data, but much of this is currently not used by any applications and not commonly available to support interoperability. Hence a subset of the properties is identified and extracted as appropriate for the NEMA guidelines.

Three levels of implementation are proposed to support the primary workflows of documentation, electrical systems design, and lighting energy code compliance calculations. The proposed data groups and data elements are selected to be generic, be simple to use, and incorporate in the BIM object libraries. A guideline Standard defining the data groups and data elements is being developed as a basis for manufacturers to enhance their BIM product libraries. It will advance the industry use of electrical product data for design workflows and encourage BIM modelers to use product manufacturer content as a basis of design.

This white paper has identified the electrical product properties information required in BIM model libraries. However, the interoperability of this BIM data is dependent on the BIM authoring tool's ability to share this data across all electrical design and procurement activities. Revit, the most-used BIM authoring tool, assigns a GUID for each parameter. Even if manufacturers provide the product properties identified in this white paper in their BIM libraries, the use of such information will be limited unless all these parameters have an industry Standard GUID across all manufacturers' products to enable interoperability.

A companion NEMA guideline is being proposed to accomplish this objective. If every electrical product manufacturer provides data using such a shared parameter list, it will greatly improve the usability of the BIM libraries beyond geometry.

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