

## ME24\_02 – Revisiting Derating Factors for Cables Installed in Ladder trays

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**Abstract** - Routing of cables in ladder trays is a common practice in Petrochemical plants. Present method of utilizing derating factors from IEC 60364-5-52 for sizing cables in ladder trays is overtly conservative and assumes that all cables are fully loaded. Also, number of cables in a tray and number of trays is taken in discrete, fixed numbers and often may not match real world requirements. This paper proposes to adopt heat transfer conditions for common cases and use commonly used mathematical models to derive derating factors. Sample cases has been investigated using FEM (Finite Element Method) to validate the findings.