

Bearing Capacity of Sheet Hanger Connection to the Trapezoidal Metal Sheet

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Abstract : Hanging to the trapezoidal sheet by decking hanger is a very widespread solution used in civil engineering to lead the distribution of energy, sanitary, air distribution system etc. under the roof or floor structure. The trapezoidal decking hanger is usually a part of the whole installation system for specific distribution medium. The leading companies offer installation systems for each specific distribution e.g. pipe rings, sprinkler systems, installation channels etc. Every specific part is connected to the base connector which is decking hanger. The own connection has three main components: decking hanger, threaded bar with nuts and web of trapezoidal sheet. The aim of this contribution is determinate the failure mechanism of each component in connection. Load bearing capacity of most components in connection could be calculated by formulas in European codes. This contribution is focused on problematic of bearing resistance of threaded bar in web of trapezoidal sheet. This issue is studied by experimental research and numerical modelling. This contribution presented the initial results of experiment which is compared with numerical model of specimen.

Keywords : decking hanger, concentrated load, connection, load bearing capacity, trapezoidal metal sheet

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