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## Structural steel connection design between the structural consultant and the steel fabricator

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The current common practice in structural steel industry is that the structural consultant analyzes the structure using the applicable load combinations and then size up the members for strength and serviceability. In most cases, the design of connections is left for the steel fabricator, who might be as well the erector of the structure. The connection design by the fabricator must be approved by the consultant after reviewing. Collaboration between the structural consultant and the steel fabricator/erector during the design process might facilitate and enhance the connection design process. Understanding the fabrication and the erection processes of the structure will allow the development of a structural system that can avoid certain types of connections. The type of the structure, its location with respect to the fabrication yard, the craneage capability, and the erection sequence may control the number and the type of connections required. Complicated connections increase the time and the cost of the fabrication as well as the erection process. In this paper, different steel connection issues will be presented and discussed. These issues are usually encountered in the design-fabrication-erection cycle of steel structures. Optimization of the process to avoid these issues will also be discussed.

### Biography

Magdi A Khalifa received his PhD in Structural Mechanics and Structural Engineering from the University of Southern California, USA, 1991. He has more than 30 years of experience in Structural Engineering and Structural Education. He just finished his term as an Associate Professor at Abu Dhabi University. Previously he served at University of Gezira-Sudan, California State University- Fresno, USA, United Arab Emirates University, Al-Ain, UAE, and University of Nebraska-Lincoln, USA. He had worked as the Design Manager at Cleveland Bridge & Engineering in Dubai. He also worked as Structural Engineer for consulting firms in California, Massachusetts, USA, UAE and Sudan.

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