Manufacturing and Assembly processes : they must be part of Design decisions

Michaël Gremling

Michaël Gremling. Unit manager
CRM Group Belgium
Contact: Michael.gremling@crmgroup.be

Abstract. Although major technical project orientations are usually well considered in projects from the early stage of the design process (examples: solution made of steel or concrete, steel grade A or B?, welded joins or bolted connections,…) other details – "small details" in appearance – are usually only considered during last stages of the design process (examples: laser cutting or punching, crane A or crane B, M30 bolts or M36 bolts …). Designers will often consider that "small details" are for "design optimization" and not for "design orientation". Although this consideration is correct in many cases, some applications are much more sensitive to these "small details". If wrongly anticipated, they can lead to significant costs and difficulties during on-site assembly and erection processes or to safety and transportation issues. The consideration of these parameters in calculations is not always straight forward and, in many cases, is based on experience. Some parameters may be transparent during the structural calculations while they will create big questions on feasibility and cost when site operations will be addressed. Other parameters will show great potential on paper while they may generate major difficulties during site operations. "if not properly designed: what works well on paper may be significantly more difficult on site" In the presentation, we will go through examples (taken from the actual experience of the CRM Group) to illustrate how feasibility and cost of the solution can be significantly influenced by Manufacturing, Transportation and Assembly parameters. The key message of the presentation is : "The sooner Manufacturing, Transportation and Assembly parameters are included into the design process, the better it is".