

Special heavy plates and steel solutions for bridge building

Tobias Lehnert¹

¹DILLINGER, Werkstr.1, 66763 Dillingen, Germany

E-mail: tobias.lehnert@dillinger.biz

Abstract. In many European countries infrastructure, -road as well as railway infrastructure-, needs intensive investments to follow the growing demands of mobility and goods traffic. Steel or steel composite bridges offer in this context viable and very sustainable solutions. Due to its unlimited recyclability steel can in general be seen as the ideal material for such sustainable constructions, but especially when designers or fabricators exploit the nowadays available possibilities of steel industry very cost-efficient and remarkable constructions are realizable. This paper will highlight some of these newest developments in heavy plates for bridge building. For example, for small span railway bridges the so-called thick plate trough bridges have proven to be a favourable concept. Very heavy plates with single plate weights up to 42 t allow building these bridges very efficiently out of one or very few single plates. Another interesting development is the so-called longitudinally profiled plates which allow a varying plate thickness along the actual loading profile. As last point the rising entry of higher strength steels in bridge building will be discussed and it will be shown why thermomechanically rolled plates are the ideal solution for these demands.