



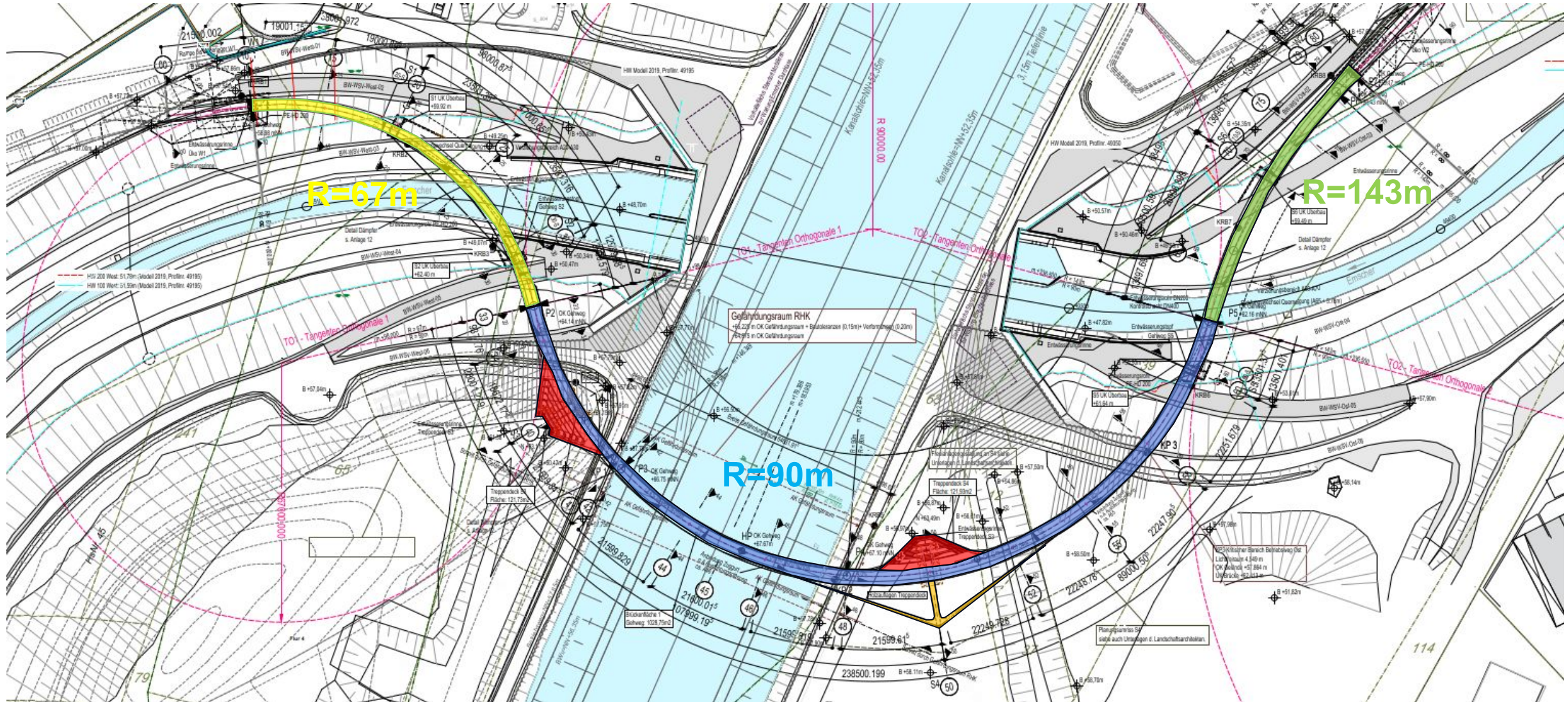
MCE



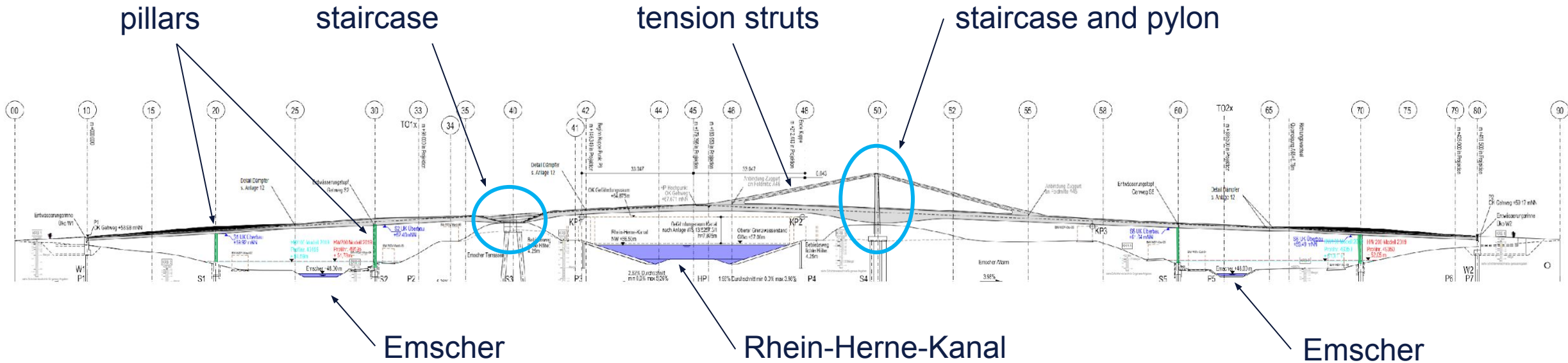
Pedestrian and bicycle bridge „Sprung über die Emscher“

Sascha Grubmüller
Johannes Eitelberger

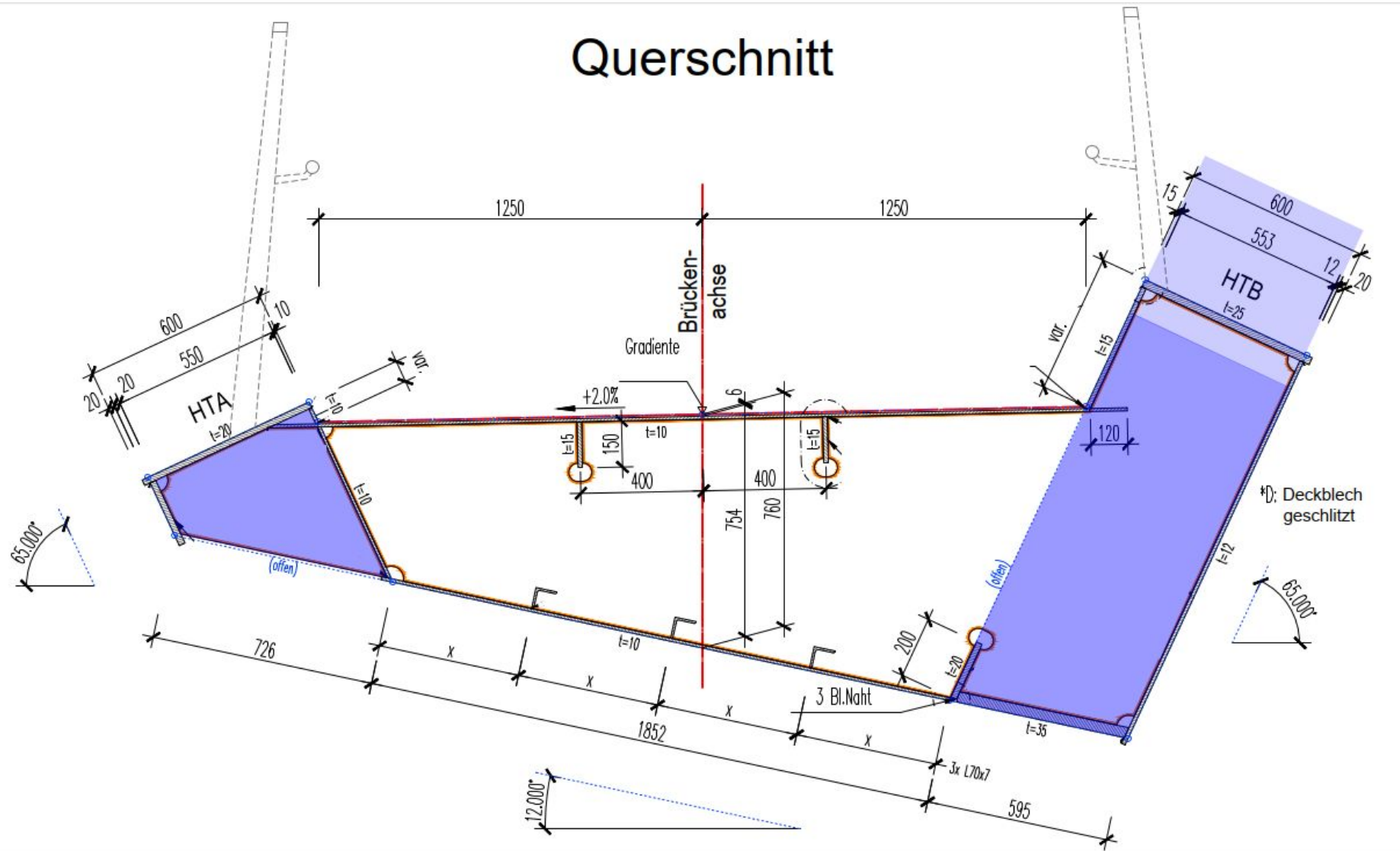
Principal design - top view



Principal design - longitudinal section

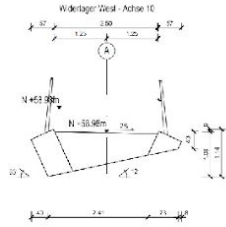


Principal design - cross section

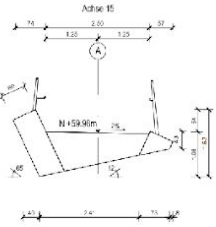


Principal design - evolution of cross section

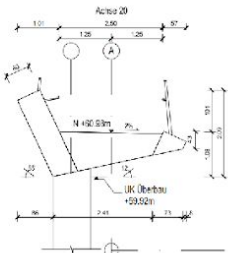
Querschnitt vor A10 M.1:50



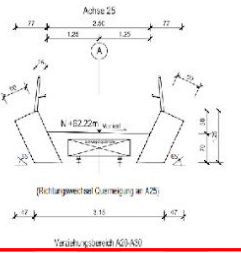
Querschnitt 15-15 M.1:50



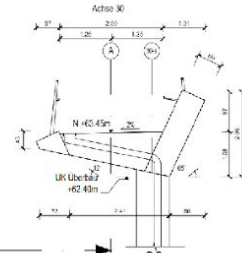
Querschnitt S1 20-20 M.1:50



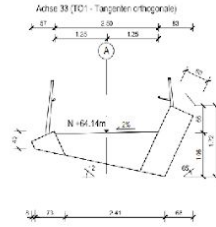
Querschnitt 25-25 M.1:50



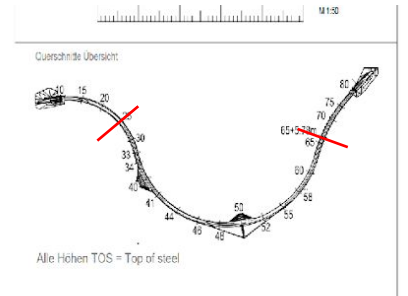
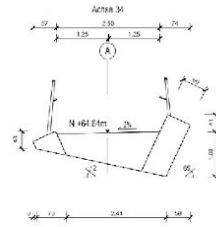
Querschnitt S2 30-30 M.1:50



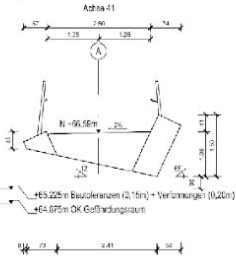
Querschnitt 33-33 M.1:50



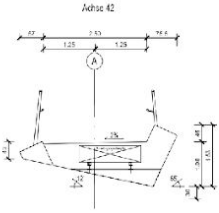
Querschnitt 34-34 M.1:50



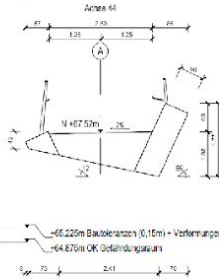
Querschnitt 41-41 M.1:50



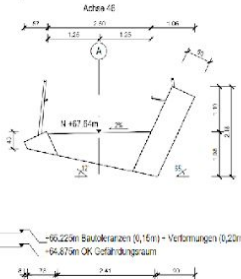
Querschnitt 42-42 M.1:50



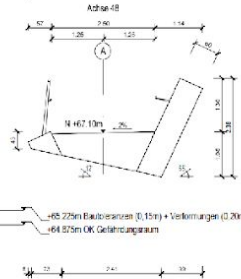
Querschnitt 44-44 M.1:50



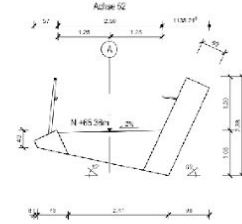
Querschnitt 46-46 M.1:50



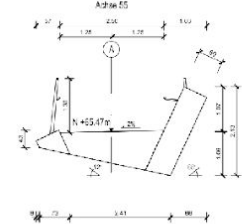
Querschnitt 48-48 M.1:50



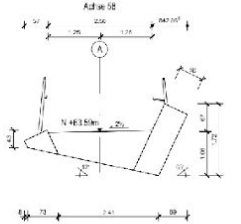
Querschnitt 52-52 M.1:50



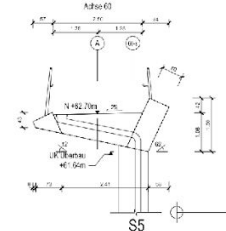
Querschnitt 55-55 M.1:50



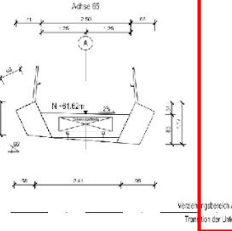
Querschnitt 58-58 M.1:50



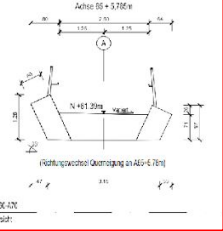
Querschnitt S5 60-60 M.1:50



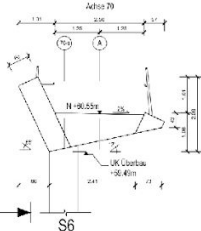
Querschnitt 65-65 M.1:50



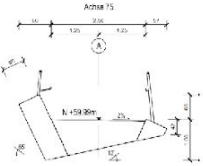
Querschnitt 65 + 5,78m M.1:50



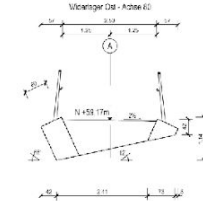
Querschnitt S6 70-70 M.1:50



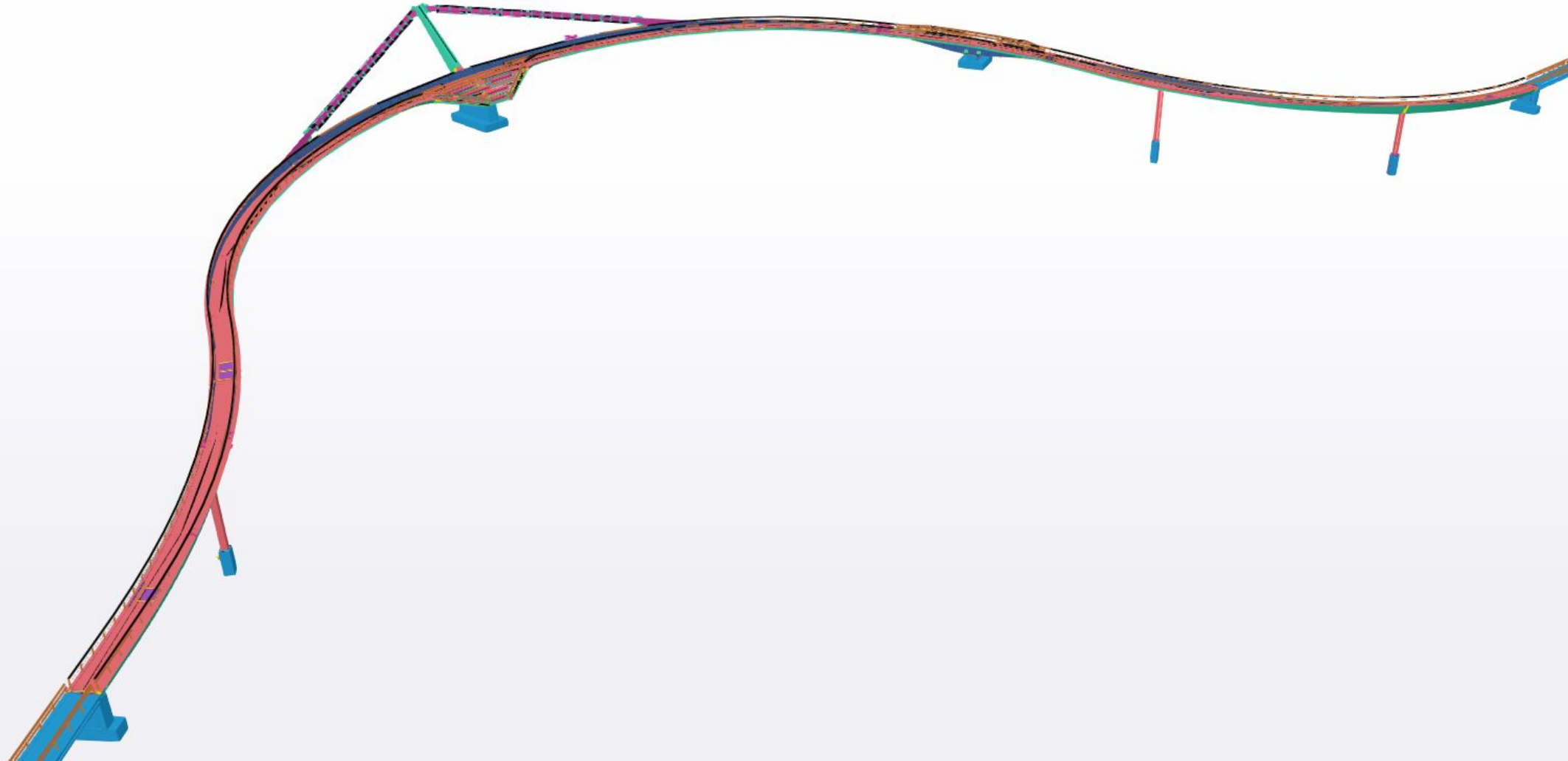
Querschnitt 75-75 M.1:50



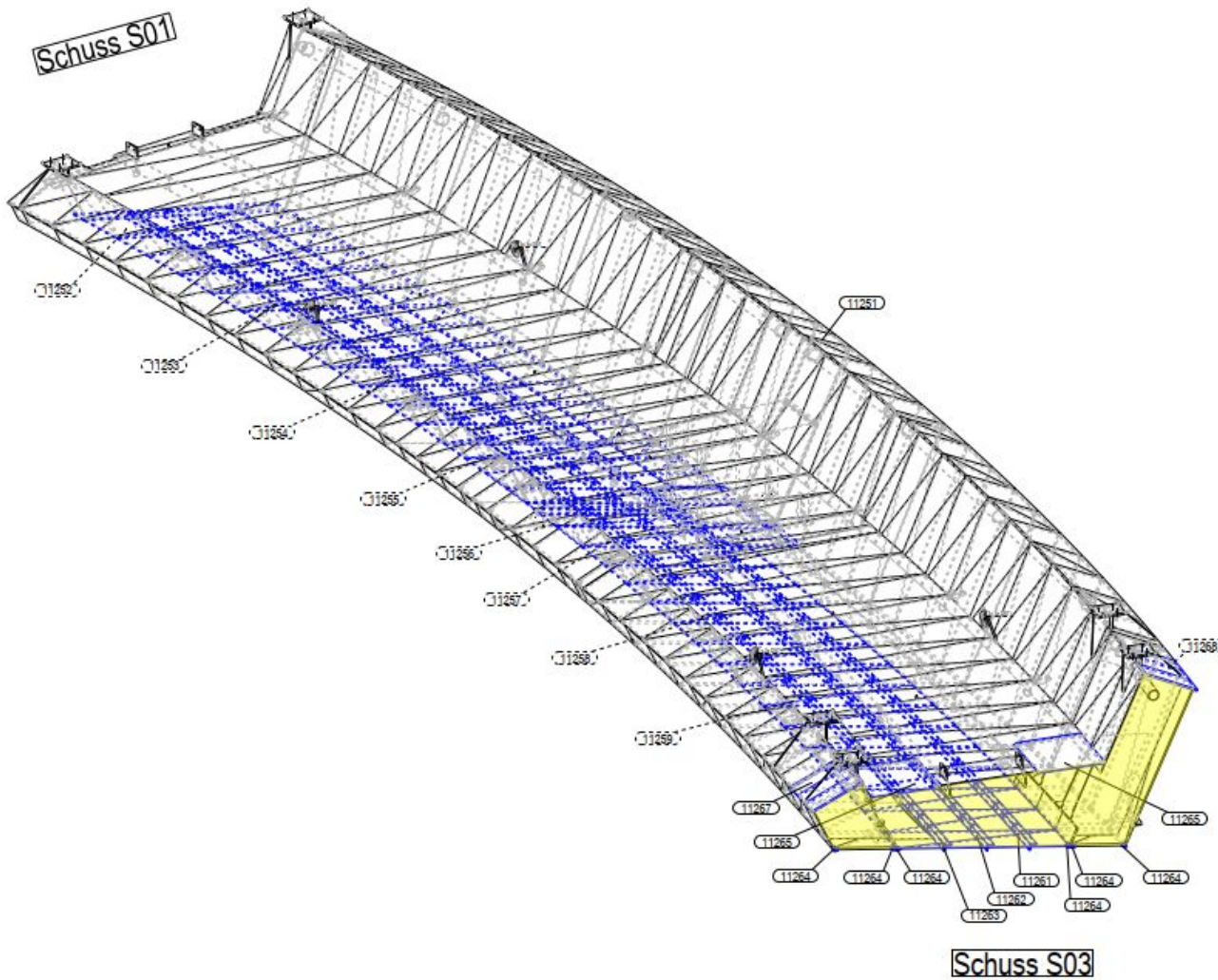
Querschnitt vor A80 M.1:100



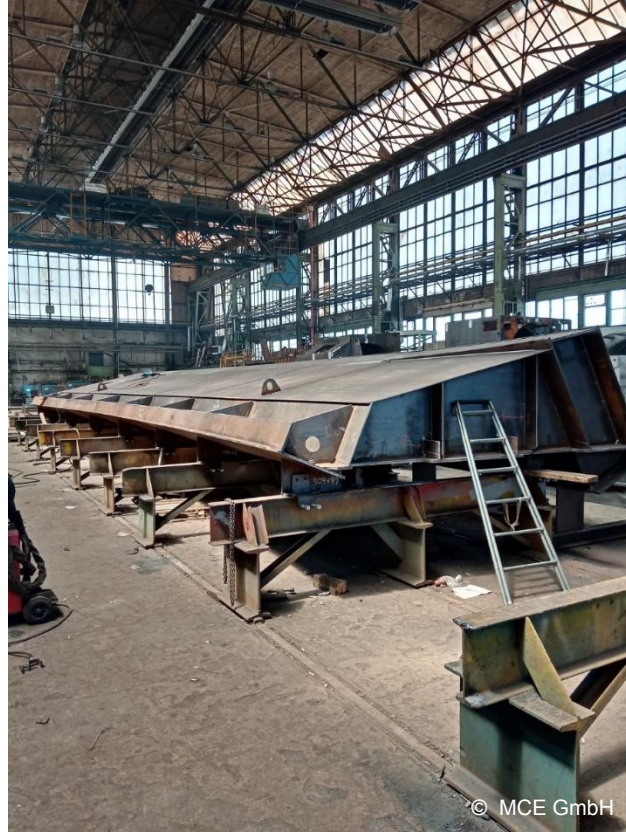
Workshop design (3D)



Workshop design (3D)



Factory production



Crane assembly



Crane assembly



Assembly of middle section with floating crane

Middle section:

Length 65 m

Weight 105 t

Curvature in plan and elevation, significant camber

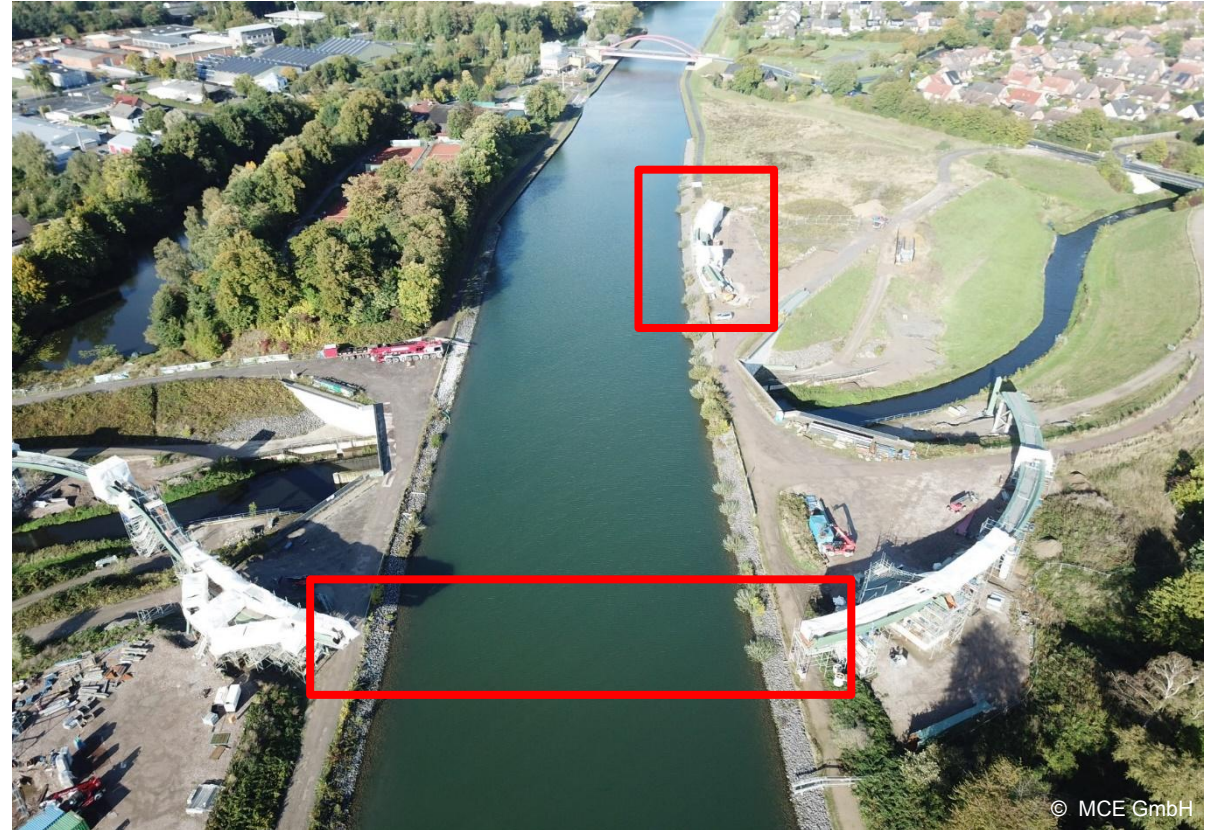
Distance from preassembly yard to final position 180 m

Floating crane: **HEBO-Lift 8**

Lifting capacity 300 t

Length 84 m

Width 22,8 m



Assembly of middle section with floating crane



Assembly of middle section with floating crane



Assembly of middle section with floating crane



Assembly of middle section with floating crane



Assembly of middle section with floating crane



Assembly of middle section with floating crane



Assembly of middle section with floating crane



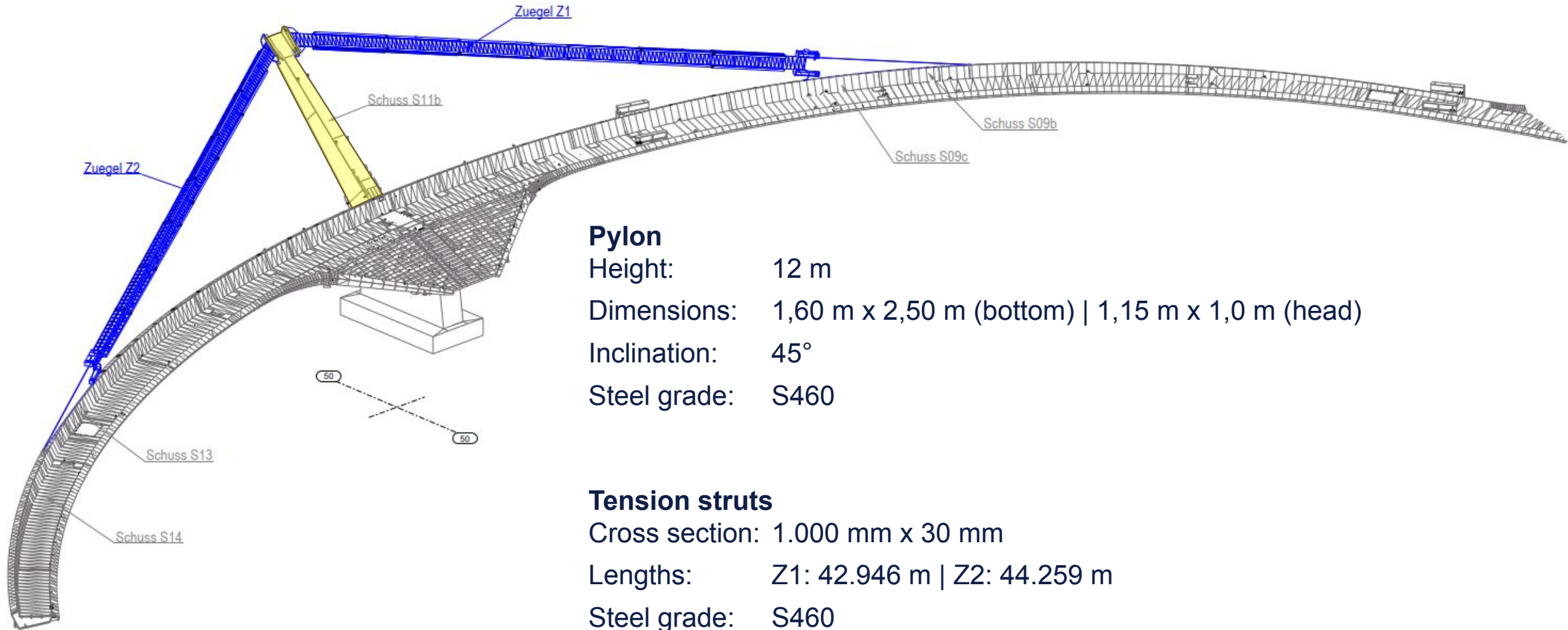
Assembly of middle section with floating crane



Assembly of middle section with floating crane



Assembly of pylon and tension struts



Pylon

Height: 12 m

Dimensions: 1,60 m x 2,50 m (bottom) | 1,15 m x 1,0 m (head)

Inclination: 45°

Steel grade: S460

Tension struts

Cross section: 1.000 mm x 30 mm

Lengths: Z1: 42.946 m | Z2: 44.259 m

Steel grade: S460

Assembly of pylon and tension struts



Assembly of pylon and tension struts



Assembly of pylon and tension struts



Almost finished...



Almost finished...



Almost finished...



Critical review



performance in construction and plant engineering



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