

Cladding of the underside of a road bridge

Turku, Finland

Located in the centre of Turku, the original Myllysilta bridge - a pre-stressed concrete box girder design - had developed serious structural problems and needed to be demolished in 2010 after only 35 years of service. It was replaced by a steel construction with concrete deck and a span

of 90 m, which also allowed cables and pipes to be accommodated. To achieve an aesthetically pleasing solution, the designers clad the underside with 320 stainless steel panels of 4 m x 2 m, which reflected the LED lighting integrated into the structure.

Due to the brackish water of the Aura river, the cladding had to be highly corrosion resistant. Besides the coastal location, de-icing salt used on the bridge during the winter months created a corrosive environment.

Despite its decorative nature, the requirement for the surface was to remain bright and shiny

with minimal maintenance. An austenitic-ferritic stainless steel, grade 2205 (EN 1.4462), was used which had a track record of performing well in comparable environments. Otherwise, this type of stainless steel is mainly found in heavy structures, which are made from hot-rolled material and consequently have a matt surface. The Myllysilta bridge showed that duplex stainless steel as a cold-rolled sheet material can be as glossy as its austenitic counterparts. (For full reference, please see: imoa.info)



Photo: WSP Finland / Esko Keski

Details

Environment:	Coastal, urban
Architects and Structural Engineers:	WSP Finland, Helsinki
Owner/developer:	City of Turku
Fabricator:	Hermann's Finland Oy, Raisio, Finland
Stainless steel grade:	2205 (EN 1.4462)
Product type:	Cold-rolled sheet
Dimension:	4 mm, 2000 mm wide
Surface finish:	2G (ground)
Total quantity:	82 t
Producer or supplier:	Outokumpu
More information:	outokumpu.com

[Click here for more stainless steel in infrastructure](#)