

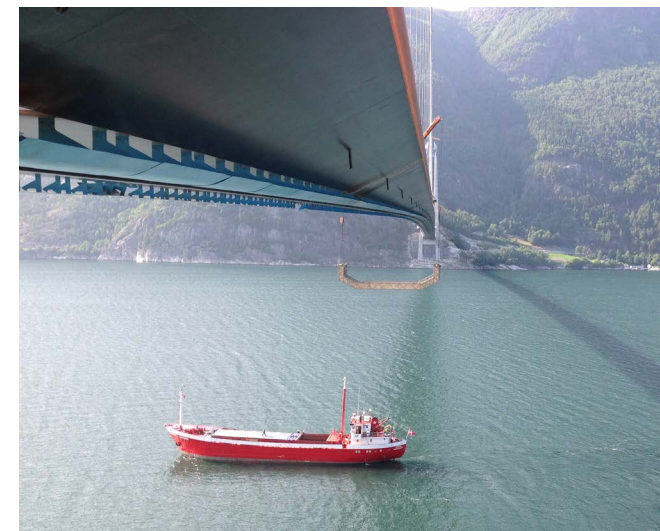
## Maintenance cradle of a suspension bridge

### Hardanger, Norway

The mountainous Norwegian coastline with its fjords makes the building and subsequent maintenance of bridges an exceptionally complex operation. At Hardanger, a bridge measuring 1,350 metres (4,530 ft) in length replaced a ferry connection and considerably shortened the travel time between the capital Oslo and the well-known tourist destination Bergen. Opened in 2012, it is the longest tunnel-to-tunnel suspension bridge in the world.

Given the sailing height of 55 metres (180 ft), strong winds and the long, harsh winters in Scandinavia, the service cradle involves closed side walls to protect the workers. As the bridge is directly connected to tunnels at both ends, future painting and repair of the cradle itself would be complex and costly. The designers therefore selected molybdenum-containing stainless steels of the 316 family for the structurally relevant parts.

*Both the tubular structure and the side walls of the service cradle are made from stainless steels of the 316 family.  
Photos: Vistal Gdynia S.A., Gdynia, Poland*



### Details

<b>Environment:</b>	Coastal
<b>Structural engineers:</b>	Public Roads Administration
<b>Fabricator:</b>	Vistal, Gdynia, Poland
<b>Product type, grade, dimension and surface:</b>	316L (EN 1.4404) as Sheet: 1 mm to 5 mm Rod: 40 mm to 100 mm Circular hollow sections, 42.4 mm x 2 mm L sections: 40 mm x 40 mm
<b>Total quantity:</b>	28 t (stainless steel only)
<b>Supplier:</b>	Outokumpu, MTL, Nova Trading
<b>More information:</b>	vistal.pl