



# SHIPBUILDING

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Shipyards and shipping companies rely on **capilla**.

## THE PROBLEM

Abrasion and corrosion heavily affect the machines and components of ships. The results range from increased energy costs, up to the failure of components and frequent maintenance downtime. Ultimately, the complete shut-down on open seas is likely, with a well known high endangerment situation for humans and the environment.

As a result, operating costs rise to incalculable amounts.

## THE SOLUTION

**capilla**-products reduce downtimes, increase product quality, and thus raise efficiency and water traffic safety noticeably.

All **capilla**-products were created with more than 50 years of experience in forging, the most demanding welding application.

## TYPICAL APPLICATIONS

Components of ship diesel engines and transmissions, superstructure decks, lifting devices, winches, hull sections, shafts, bearings.

Demanding welders all over the world put their trust in the **capilla**-quality: in maintenance, repairs and production.

**capilla** always delivers the most suitable product.

**capilla** - The number 1 for all demanding metal-workers.

Below you can find a brief extract of the stick-electrode range manufactured by **capilla**, which are specifically used in the Shipbuilding Industry. A number of other products, as well as solutions for other welding processes can alternatively be provided by **capilla**.

	Product Description	Applications	Analysis [weight-%]
<b>30 S</b>  AWS A 5.1: E 6013	Medium-thick rutile-cellulose coated stick electrode for assembly and maintenance welding in all positions, especially suitable for vertical down welding. Good bridging over of gaps. Using recommended welding parameters leads to self-removing slag.	Fusion welding of general purpose constructional steel, boiler plates, pipe steel, ship structural steel, high tensile steel and cast steel such as: S 185-S 355 JOC, P 235 GH, P 265 GH, P 295 GH, P 210 N-P 360 N, S 255 NH-S 355 NH, P 255 NH-P 355 NH, GS 38-GS 52	C max. 0,08 Mn max. 0,5 Si max. 0,3 Fe Rest
<b>316 LR</b>  AWS A 5.4: E 316 L-17	Rutile coated stick electrode for welding of austenitic stainless Cr-Ni-Mo steels with extra low carbon content. Service temperatures up to 400°C.	Suitable for materials as: 1.4401, 1.4404, 1.4406, 1.4408, 1.4420, 1.4435, 1.4436, 1.4571, 1.4573, 1.4580, 1.4581, 1.4583.	C max. 0,03 Cr 18,0-20,0 Ni 11,0-13,0 Mo 2,5-3,0 Fe Rest
<b>5400</b>  EN 14700: E Fe 8-60-gpt	Basic coated Cr-Mo-V alloyed stick electrode for extremely hard overlay welding on constructional components and machine parts, which are exposed to high levels of frictional wear and heavy impacts. Hardfacing of components of earth moving machines.	Production of new tools and repair of worn out tools and machine parts such as rolls, baffle plates, forging, pressing and drawing tools.	C 0,8-1,0 Cr 9,0-10,0 Mo 1,5-2,5 V 1,0-1,5 Fe Rest

Experts trust **capilla**.



**TÜV NORD**

# CERTIFICATE

Management system as per  
**DIN EN ISO 9001 : 2015**

In accordance with TÜV NORD CERT procedures, it is hereby certified that

**Capilla Schweißmaterialien GmbH**  
Westring 48 - 50  
33818 Leopoldshöhe  
Germany



applies a management system in line with the above standard for the following scope

**Development, manufacture and sale of welding consumables**

Certificate Registration No. 04 100 960464  
Audit Report No. 3520 8477

Valid from 2018-02-20  
Valid until 2021-02-19  
Initial certification 1996

*Jenssen-Landell*  
Certification Body  
at TÜV NORD CERT GmbH

Essen, 2018-01-29

This certification was conducted in accordance with the TÜV NORD CERT auditing and certification procedures and is subject to regular surveillance audits.

TÜV NORD CERT GmbH    Langemarckstraße 20    45141 Essen    [www.tuev-nord-cert.com](http://www.tuev-nord-cert.com)



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