

Certificate



Suppl.-No.: 01
to Certificate WF 1210299 HH

WPS-No.: see remarks

Messrs. **P.T. Kukar Mandiri Shipyard**

has been approved on the basis of the welding procedure test supervised by Germanischer Lloyd and specified in a welding procedure specification (see WPS-No.), in accordance with the "Rules for Classification and Construction II, Material and Welding Technology, Part 3 - Welding" for the following welding procedure:

Shielded metal-arc welding of normal-strength hull structural steels

Welding Details

Process: 111 - Shielded metal-arc welding with covered electrode (SMAW)
Type of weld: Butt welds, welded from both sides in multi-run technique with back gouging. Fillet welds.
Welding equipment: Suited, in accordance with the instructions of the welding supervisor.
Welding data: As for the welding procedure tests, see relevant WPS.
Welding consumables: Covered electrode: "OK 46.00" (P.T. Karya Yasantara Cakti, Jakarta / Indonesia), GL grade 2, as well as other similar covered electrodes tested and approved by Germanischer Lloyd with the relevant grades according to the base materials to be welded.

Edge preparation: Butt welds: Single-V, included angle approx. 60°, root face 0 - 3 mm and root gap 0 - 3 mm, as for the welding procedure tests, see relevant WPS. Fillet welds: weld area free of shop primer.

Weld build-up: Multi-layer.

Welding heat treatment: Without preheat (see remarks).
Interpass temperature: 250°C max.

Welders: Welders recognized by Germanischer Lloyd with valid welder's test certificates in the respective test group.

Others: PQR No.: GL/01/PC/2011, GL/02/PF/2012, GL/02/PB/2011, GL/02/PF/2011 dated 03. May 2012.

Range of application

Base material(s): Normal-strength hull structural steel grade GL A, as well as other comparable structural steels with minimum specified yield strength up to 280 N/mm² and consent of Germanischer Lloyd.

Wall thickness(es) [mm]: 3,0 - 24,0

Pipe diameter [mm]: ---

Positions: Butt welds and fillet welds in all position, except vertical-down welding (PG).

Heat treatment condition: As welded.

Design temperature: As for base and filler material.

Particularities, remarks: WPS/KMS/01/PC/2012/1 dated 2011-11-25, WPS/KMS/02/PF/2012/1 dated 2012-03-20, WPS/KMS/02/PB/2012/01 dated 2011-11-29 and WPS/KMS/02/PF/2012/01 dated 2011-11-29.

Parts of this approval are the a. m. certificate, the above mentioned WPS, if any, and our letter of approval with ref.-no. 101502-12/NWor of 2012-11-23.

Hamburg, 2012-11-23

Germanischer Lloyd


Norbert Worm

Concerning the period of validity or the extension of approval and the duty to notify GL if the preconditions change under which approval was granted, the statements given in the Rules for Welding are to be observed. Additional requirements, if any, in the covering letter are to be observed. The latest edition of the General Terms and Conditions of Germanischer Lloyd is applicable (see Chapter I - Ship Technology, Part 0 - Classification and Surveys), Germanischer Lloyd SE, Registered Office Hamburg, HRB 115442.