

# Lloyd's Register of Shipping.

Order: Pt. 853 I / 1156.

Surveyors' Office, DÜSSELDORF.

This is to certify, that Karl Hauss the undersigned surveyor to this Society tested in the works of Messrs. Klöckner-Werke A.G. Abt. Georgmarien-Werke of Georgmarienhütte the Siemens-Martin Boiler steel Bars specified hereunder, ordered by Messrs. Howaldtswerke A.G. of Kiel for the ship No. 432 Boiler No. 1513 and that the results of tests were as are set forth below.

| Batch-number. | Dimensions. |          |             | Intended for          | Sample number | Charge-number | Tensile tenacity |              |             | Elongation in 200 mm. in %. | Bending tests. |             | Remarks<br>Elongation in 90 mm in % |
|---------------|-------------|----------|-------------|-----------------------|---------------|---------------|------------------|--------------|-------------|-----------------------------|----------------|-------------|-------------------------------------|
|               | Length.     | Breadth. | Thick-ness. |                       |               |               | As per rules.    | Ordered.     | By test.    |                             | Cold.          | Tempered    |                                     |
| <u>2850</u>   | <u>3430</u> | <u>φ</u> | <u>44</u>   | <u>Long stay bars</u> | <u>1</u>      | <u>428</u>    | <u>44/55</u>     | <u>44/50</u> | <u>45,0</u> | <u>29,0</u>                 | <u>good</u>    | <u>good</u> | <u>40,0</u>                         |
| <u>850</u>    | <u>3460</u> | <u>φ</u> | <u>44</u>   | <u>" " "</u>          |               |               |                  |              |             |                             |                |             |                                     |

Cold and temper bend tests 180° good.

Düsseldorf 21<sup>st</sup> September 1934.

Karl Hauss  
Surveyor to Lloyd's Register

This Certificate is issued upon the terms of the Rules and Regulations of the Society, which provide that:—

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N.B.—Material with less than 26 Tons tensile strength may not be used in the construction of boilers for classed vessels, unless specially sanctioned by the Committee.

1 Ton per square inch = 1,574 Kilo per square millimeter. 1 Kilo per square millimeter = 0,635 Tons per square inch.