

S.S. "ALSTER", to be re-named "EMPIRE ENDURANCE."

No. 69500 in Register Book.

Classification.

The case of this vessel was dealt with in the endorsement dated 3.7.40, at which time the Middlesbrough Surveyors were requested to forward for consideration plans of the main engine shafting, together with certain particulars of the machinery required for calculation purposes.

These plans and particulars have now been received, the plans have been examined and the sizes of the shafting meet the requirements of the Rules, with the exception of the shaft connecting the reciprocating engine to the main line of shafting, which is slightly less than required. It appears, however, from the plans, that the material of this shaft is of special quality, and, in the circumstances, the shaft might be accepted.

IT IS SUBMITTED that with triple expansion steam reciprocating engines combined with exhaust steam turbines for main propelling purposes on ocean-going service, diameters of cylinders 870 mm., 1340 mm. and 2200 mm., stroke 1450 mm., boiler working pressure 14.5 Kg. per sq. cm., screw shaft fitted with continuous liner, diameter of propeller 6350 mm., and developing a total I.H.P. of 6,500 at 78 R.P.M. of the propeller shafting, the following sizes of shafting merit approval, viz.:-

Crank shaft - Pins 472 mm. dia., Journals 462 mm. dia.
Thrust shaft - 620 mm. dia. with central bore of 432 mm. dia.
Turbine Wheel shaft - 532 mm. dia. with central bore of 432 mm. dia.
Intermediate shaft - 438 mm. dia.
Screw shaft - 477 mm. dia.

With regard to the shaft of dia. 412 mm., connecting the reciprocating engine to the main line of shafting, this



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size is slightly less than required by the Rules, but since it appears from the plans that the material is of special quality, it is considered the shaft might be accepted, provided it be specially examined and found sound and free from signs of strain.

The plans of shafting also merit approval.

The Surveyors should be informed, in answer to their enquiry, that copies of all future plans forwarded for consideration should be furnished for reference in this Office.

W.H.H. *J.H.* *sa.*
9.7.40.
AL

Return plans (6).
Retain photostat copies (4).

L.H.H.

L.H.H.



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