

COPY.

Lloyd's Register of Shipping,

71, Fenchurch Street, E.C. 3.

Enclosure.

12th July, 1923.

Dear Sirs,

E. I duly received Mr. Watt's letter of the 4th ultimo regarding the s.s. "HORAISON MARU" and I have to inform you that his remarks with respect to burning the joint of a screw shaft liner are noted and, further, that his recommendation to the Superintendent of this vessel, that the screw shaft liner should be completely renewed, is concurred in.

I have, however, to point out that the experiment of the liner of the tail shaft of the s.s. "KISO MARU" need not necessarily condemn the practice of burning the joints of liners, because where new materials have been thus treated satisfactory joints have been made, but it appears to be essential that the fusion of the metal should be effected in small portions and that it should extend the full thickness of the liner.

The practice of fitting the liner in more than one piece is generally adopted only by Firms who have no facilities for handling long liners, and it is usual in these cases to shrink the liners on the shaft. The butts of the liners are brought as close together as possible, and the edges of the butts are shaped thus

For Swedish See

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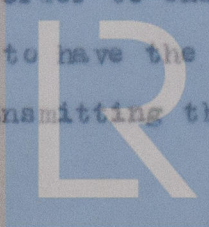


When burning is to be done, a mould is placed at the butt so arranged that only a small portion of the circumference of the liners is covered and with an overflow from the mould as well as an inlet. Molten brass is then poured into the mould and after sufficient metal has been run through the mould to ensure that the edges of the groove are in a molten condition the metal is allowed to set. This process is repeated until the whole circumference of the butt has been dealt with. Even with considerable practice and the greatest care this method is not always successful.

With the same initial preparations other Firms employ <sup>the</sup> electric welding process in which case the medium used is spelter, the groove at the butt of the liners being completely filled for its full depth bit by bit until the whole circumference is dealt with.

As far as this country is concerned it has become almost the universal practice to fit the screw shaft liner in one piece. A memorandum of the methods employed is enclosed herewith.

There is one point which is not mentioned in this memorandum, viz:- that before the liners are bored it is usual to rough turn the outside in order to ensure that there are no serious defects, and also to have the thickness more uniform either for heating or for transmitting the stress when being forced on the shaft.





3.

It might also be mentioned that where long liners are forced on by hydraulic press it is usual to allow several inches surplus length at both ends of the liner as, in being forced over the shaft, the advanced end becomes slightly bell mouthed and the back end may be slightly distorted by the action of the press head piece.

*For sketch see endorsement.*

I am, Dear Sirs,

Yours faithfully,

The Surveyors,

KOBE.



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