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## Lloyd's Register of Shipping,

71, Fenchurch Street, E.C. 3.

14th August, 1935.

Dear Sirs,

I duly received your letter of the 29th ultimo, with enclosures, relative to the Loeffler Boiler to be constructed at the Witkowitz Works and to be installed by Messrs. Cantieri Riuniti dell'Adriatico in the steamer "CONTE ROSSO", and have to say that your remarks have been carefully noted.

In this connexion, I have to inform you that Dr. Ledeneff and Dr. Bredtschneider, of The Witkowitz Engineering Co., together with Mr. Blenkinsop and Mr. Schaaf, of Messrs. Mitchell Engineering Co., the London Agents of the Firm, have visited this Office and discussed the question of this proposed Loeffler Boiler installation.

With regard thereto, I may say that Plans Nos. 2497, 2500, 2499, 2504 and 2529 have now been further examined in the light of the remarks contained in your letter, and enclosures, of the 29th ultimo, and I have to advise you as follows:-

Plan No. 2529H, showing details of intermediate superheater, will be approved for a working pressure of 14 Kgs. per square cm. on the shell and 16 Kgs. per square cm. in the tube, provided the superheater be constructed



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under the usual conditions of survey and testing and the welding be carried out to the Surveyors' entire satisfaction.

It is concluded that the thickness and external radius of the end plate shown at the right end of the plan will be 8 mm. and 270 mm. respectively.

Plans Nos. 2499H and 2500A, showing details of radiation superheater, and Plan No. 2497, showing detail of convection superheater, will be approved for a working pressure of 140 Kgs. per square cm., provided the parts be made under the usual conditions of survey and testing, and the welding be carried out to the Surveyors' entire satisfaction.

Plan No. 2504H, showing details of steam pipes, will be approved for a working pressure of 140 Kgs. per square cm., provided the thickness of Pipes Nos. 2 and 3 be increased to  $12\frac{1}{2}$  mm. and that of Pipes Nos. 11 and 12 be increased to  $6\frac{1}{2}$  mm., the pipes be made under the usual conditions of survey and testing and the welding be to the entire satisfaction of the Surveyors. I have to draw your attention to the tensile strength of the material of these pipes.

It is understood that the headers, tubes and steam pipes will be submitted to a normalising heat treatment and, further, that the headers will be protected from the direct impact of the heat in the radiation and convection superheaters, and you should give these matters your



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special attention.

With reference to Messrs. Santieri Riuniti dell'Adriatico's desire to have approval for the evaporator drum for 140 Kgs. per square cm., I should point out that, as stated in my letter of the 27th ultimo, the maximum pressure for which the evaporator drum could be considered suitable is 136 Kgs. per square cm. A working pressure of 140 Kgs. per square cm., could be assigned, provided the thickness of the shell of the drum be not less than 61.8 mm.

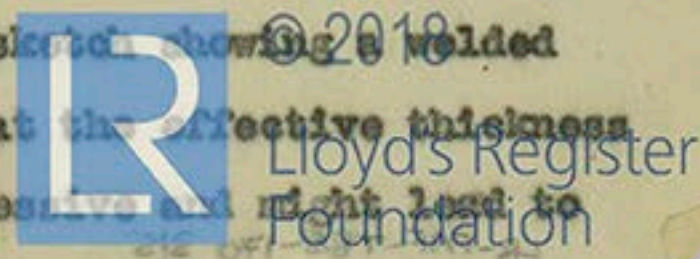
I may add that the representatives of Messrs. Witkowitz state that the thickness of the shell of the evaporator drum will be increased to 62 mm.

It is noted that the final temperature of the steam will not exceed 475°C.

It is also noted that all welding is to be carried out by the oxy-acetylene process, and, in these circumstances, certain of the modifications previously suggested for the circumferential seam of the headers are not considered necessary and have been deleted on the plans.

I shall be glad if you will arrange to carry out the series of welding tests, suggested in the memorandum enclosed with my letter of the 17th ultimo, and report the results to this Office as early as possible.

With reference to the sketch showing a welded joint of tube, it is considered that the effective thickness in way of the weld is somewhat excessive and might lead to





serious local overheating, particularly in the case of the radiation superheater tubes.

It is noted that the boiler will be constructed at Witkowitz and fitted on board at Trieste, where the tubes will be welded in place, and, in the circumstances, the Vienna Surveyors are being fully advised regarding this case. I shall be glad if you will forward the approved plans which are in your possession to the Vienna Surveyors for their guidance.

With reference to the materials for this boiler, I have to advise you that it will be necessary to carry out the usual tensile and bend tests, and, in addition to carry out tensile tests of the material for the various parts at their working temperature, in the case of those materials whose working temperatures are  $450^{\circ}\text{C}$ . and above, and, further, to carry out some tests in order to verify that the creep properties are as stated on the plan.

I shall be glad if you will forward for consideration plans showing details of evaporator drum and plates containing steam pump, safety valves, water gauges, blow-down valves and salinometer cocks, Escher Wyss turbine and gearing, as requested in my letter of the 5th April last, together with a plan showing a typical shut-off valve for this installation.

Further, particulars of the arrangement for controlling the oil fuel supply and for recirculating the



temperatures at various parts of the boiler should also be submitted.

I have to add that a condition of acceptance of this Loeffler Boiler installation will be that the boiler will be subject to examination by the Society's Surveyors at half yearly intervals.

Four plans (Nos. 2496H, 2500H, 2504H and 2497H ) are being returned to you under separate cover, and the remaining plans are being retained.

I am, Dear Sirs,

Yours faithfully,

Secretary.

The Surveyors,

TRIESTE.



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