



Lloyd's Register of Shipping,

95, Bothwell Street, Glasgow, C.2.

17th February, 1938.

Reference

Dear Dr. Dorey,

At last I have succeeded in obtaining the physical and chemical results of various samples forwarded from London, among which was your samples from the S.S. "IRENE MARIA".

The physical properties of the material were

Tensile strength	28.6 tons/sq.in
Elongation.....	29.0 %
Izod Impact	27, 30, 27.

The notches were so cut that the fracture under impact was parallel to the path of the actual fissures in the plate.

The chemical analysis was as follows:-

Carbon20
Silicon035
Sulphur046
Phosphorus043
Manganese620

The material is, therefore quite satisfactory both physically and chemically.

The attached micrograph of a crack at 500 diams. clearly shews its intercrystalline path, and confirms that the failure has been due to chemical embrittlement.

S.F.Dorey, Esq., D.Sc.,
LONDON.

With kind regards,
Yours very truly,

William Harris

W401-207

P.S. Many thanks for the X-Ray course.

17th February, 1938.

Dear Dr. Percy,

At last I have succeeded in obtaining the physical and chemical results of various samples forwarded from London, among which was your sample from the S.S. "IRISH MARIA".

The physical properties of the material

were

Tensile strength 28.6 tons/sq.in.
Elongation 22.9 %
Isod Impact 27, 20, 27.

The notches were so cut that the fracture under impact was parallel to the path of the actual fissures in the plate.

The chemical analysis was as follows:-

Carbon 83.
Silicon 0.35
Sulphur 0.15
Phosphorus 0.15
Manganese 0.80

The material is, therefore quite satisfactory both physically

and chemically.

The attached micrograph of a crack at 500 diams. clearly shows the intercrystalline path, and confirms the fact that there has been no chemical embrittlement.

With kind regards,
Yours very truly,

S. J. Dorey, Esq., D.Sc.,
London.

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Foundation