



*ack 2/22*

# Lloyd's Register of Shipping,

95, Bothwell Street, Glasgow, C.2.

17th February, 1938.

*Refer to Caunter  
& X ray  
course*

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:-

Carbon .....	.20
Silicon .....	.035
Sulphur .....	.046
Phosphorus .....	.043
Manganese .....	.620

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.

With kind regards,  
Yours very truly,

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

*William Harris*

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

17th February, 1938.

Dear Mr. Dorsy,

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 MAHIA".

The physical properties of the material

were

Tensile strength .....	28.6 tons/sq.in
Elongation .....	22.0 %
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:-

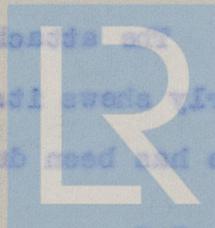
Carbon .....	83
Silicon .....	0.35
Sulphur .....	0.18
Phosphorus .....	0.13
Manganese .....	0.80

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,



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Lloyd's Register  
Foundation

S.S. Dorsy, Esq., D.Sc.,  
LONDON.

RETAIN