



Lloyd's Register Technical Services Inc.

Main order or contract reference	JET BLAST FIRE TEST	Certificate No.	ISH 9800159/1
Purchaser	FELS	Office	HOUSTON
For delivery to	-	Date	6 SEPTEMBER 1998
This certificate is issued to to certify that the material described has been inspected at	PROTECTIVE CONCEPTS, INC. SOUTHWEST RESEARCH INSTITUTE SAN ANTONIO, TEXAS	Order No.	-
Inspection dates	First 4 SEPTEMBER 1998	Order status	COMPLETE
		Final	4 SEPTEMBER 1998

General Certificate

This is to certify that, at the request of Protective Concepts, Inc., the undersigned Inspectors did attend their works in Spring, Texas and subsequently Southwest Research Institute Fire Test Division, San Antonio, Texas, on and between the above mentioned dates for the purpose of inspecting and witnessing Jet Fire test carried out on tubular section test specimen fitted with PFP material as follows:-

10 3/4" O.D. SCH 40 TUBULAR SPECIMEN FITTED WITH
2 1/2" THICK "PROCON 2000" FIRE PROTECTIVE JACKET

SCOPE OF INSPECTION CARRIED OUT:

- 1.0 Verified preparation of the fire protective jacket.
- 2.0 Witnessed Jet fire test carried out on the tubular specimen.
- 3.0 Performed post test visual inspection of test specimen.

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Test data attached? NO


Inspector to Lloyd's Register Technical Services Inc.

Wes G. Nix (Signature) / J.R. Robinson

By signing this report of examination neither the Inspector nor his employer makes any warranty, expressed or implied, concerning any inaccuracy in any report issued. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage, or a loss of any kind, arising from or connected with this inspection.

Preparation of the test specimen and test set-up was verified for compliance with the OTI 95 634 specification for Jet-Fire Resistance Test of Passive Fire Protection Materials, results revealed compliance with the specification, however, it was noted that thermocouples were run longitudinally on the outside for more than 50 mm and have not been passed through the holes to the inside of the tubular section as specified in the specification para. 6.3.4.

Jet fire test was carried out in accordance with the OTI 95 634 specification for one (1) hour. At the 30 minutes of jet fire exposure average thermocouple reading was 51° C with the hottest thermocouple reading at 70°C. At the conclusion of one (1) hour test, the average thermocouple reading was 136°C, and the maximum individual thermocouple reading was 170° C.

After the test, the sample was photographed, observations were made. Post test visual inspection of the test specimen revealed no significant damages to the protective jacket, no burning of the protective material other than burned out outer cloth, reinforcing inconel mesh was intact, the material retained/supported by the reinforcing mesh was intact, no deformation, cracking or charring of the material was noted.

Test data attached? NO


Inspector to Lloyd's Register Technical Services Inc.

Wes G. Niedziadoski / J.R. Robinson

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