

# FIRETESTED DUAL PLATE CHECK VALVES

There is an increasing demand by oil company majors for soft seated check valves to be approved and certified firesafe for use in some hydrocarbon service applications. For example, on oil and gas production platforms and in Liquefied Natural Gas (LNG) plants. Two such projects to which Goodwin has supplied where firetest approved and certified designs were mandatory were Amerada Hess' South Arne (Denmark) gas production platform and valves installed in the gas transmission system of the Nigeria LNG (viz. Shell) Bonny Island LNG export facility.

Goodwin International has had firetests conducted on a number of resilient seated valves by an independent facility and witnessed by Lloyds Register of Shipping. The basis of the testing is the valve being subjected to a 30 minute "burn" during which time the soft seat is partially or totally destroyed. During the "burn" and later, after cooling, the leakage across the valve is measured and has to meet specific requirements.

Goodwin is approved and certified firesafe for all sizes in pressure classes ANSI 150 to ANSI 900. The valves tested met the performance requirements stated in the following standards:

**BS 6755 Part 2 1987: Testing of Valves**  
Specification for fire type-testing requirements

**API 6FA 2nd Edition 15th February 1994**  
Specification for Firetest for Valves

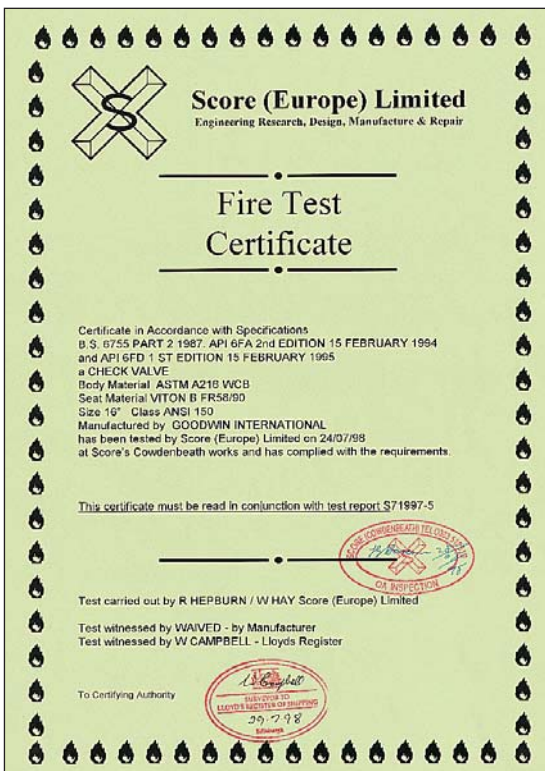
**API 6FD 1st Edition 15th February 1995**  
Specification for Fire Test for Check Valves



16" 600 lb BFR Flanged Check Valve undergoing firetest

For a firesafe installation many oil company specifications insist on flanged or solid lug valves in hydrocarbon service. With wafer type valves with exposed long bolting, in the event of fire, these bolts would be subject to direct flame impingement which would then lead to bolt expansion and subsequent "dropping" of the valve. The line fluid would then feed the fire. With solid lug and flanged designs this problem is avoided.

Many companies specify and use wafer type valves in hydrocarbon service preferring, where deemed necessary, to protect the bolting by other means such as bolt shrouds and fire shields.



## FIRETEST COVERAGE MATRIX

ANSI RATING /SIZE	150	300	600	900
2"	TEST (Report No 71997-1)		TEST (Report No 71997-2)	
3"	COVERED		COVERED	
4"				
6"	TEST (Report No 71997-3)		TEST (Report No 71997-4)	
8"				
10"	COVERED		COVERED	
12"				
14"	TBC		TBC	
16"	TEST (Report No 71997-5)		TEST (Report No 71552-1)	
AND ABOVE	COVERED		COVERED	