

Certificate of Test

Freudenberg Oil & Gas Technologies' 5.00" FS Seal was successfully pressure/temperature cycle tested in accordance with ISO 10423, Annex F.1.11 (Valve performance class PR2).

Product Details: FO> – 5.00" FS Seal

Manufacturer:	Freudenberg Oil & Gas Technologies		
Part Number:	10048242-50	P.O. Number: 23008	
Product Type:	FS Seal		
Compound ID:	Gazguard 728OGT		
Compound Description:	HNBR		
Molding Site:	FO> Newcastle, UK		

Test Parameters:

Validation Test Standard:	ISO 10423, Annex F.1.11		
Test Pressure:	68.94 MPa	10,000	psi
Maximum Temperature	121 °C	250	°F
Minimum Temperature:	-29 °C	-20	°F
Test Mandrel Outside Diameter	127 mm	5.00	inch
Test Medium:	N2 (Nitrogen Gas)		
Pressure Cycles:	7	Temperature Cycles:	3
Duration of Hold Periods:	1 hour	Temperature Class:	V
Acceptance Criteria:	Maximum leakage allowance 20cm ³ /hour		

Test Details:

Test Performed by:	Freudenberg Oil & Gas Technologies
Test Location:	Materials Development & Product Testing Lab 4535 Brittmoore Rd. Houston, TX 77041
Internal Test Procedure:	SOP-00033
Test Completion Date:	February 24, 2016
Test Results:	0.1cm ³ /hour in the last 10,000psi hold period at Room temperature. Zero gas leakage in all other hold periods.

Authorized by:

Michael LoGiudice

Product Champion, Down Hole Tool Technology

