



GORE® GR

SHEET GASKETING

Technical bulletin – EN 13555 tests: $Q_{min(L)}$ and $Q_{Smin(L)}$ (Minimum gasket stress during installation and in operation)

Product: GORE® GR sheet gasketing
Test dates: November 2005 – January 2006
Test institute: Fachhochschule Münster
Test procedures: Leakage test according to EN 13555

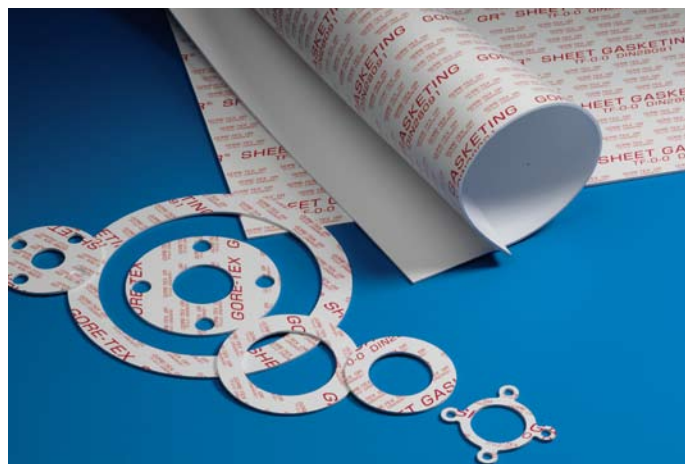
TEST OVERVIEW:

$Q_{min(L)}$ is the minimum required gasket stress for a certain leakage class L when the seal is first installed. For example, $L_{0.1}$ corresponds to a leakage of 0.1 mg/(s*m).

$Q_{Smin(L)}$ is the minimum required gasket stress in operation for a certain leakage class L and primarily depends on the initial gasket stress Q_A . The higher this value, the lower the $Q_{Smin(L)}$.
 $Q_{Smin(L)}$ is always lower than $Q_{min(L)}$.

Note: The tests specified in EN 13555 only provide for the measurement of values of 10 MPa and higher. However, other tests and practical experience have shown that a gasket stress of 5 MPa is sufficient to achieve both a tight seal and blow-out resistance. For this reason, Gore always specifies 5 MPa for Q_{Smin} , irrespective of the seal thickness and the initial gasket stress.

A load is applied to and removed from the seal in predefined increments, with the leakage being measured constantly. The internal pressure is usually 40 bar (test gas: helium).



TEST RESULTS:

Material	Thickness [mm]	Q_{min} [MPa]			
		$L_{1.0}$	$L_{0.1}$	$L_{0.01}$	$L_{0.001}$
GORE® GR	1.6	<10	17	27	37
GORE® GR	3.2	10	21	32	44
GORE® GR	6.4	13	25	38	48

Material	Thickness [mm]	Q_A [MPa]	Q_{Smin} [MPa]			
			$L_{1.0}$	$L_{0.1}$	$L_{0.01}$	$L_{0.001}$
GORE® GR	1.6	20	<10	<10	X	X
		40	<10	<10	<10	25
		60	<10	<10	<10	<10
GORE® GR	3.2	20	<10	X	X	X
		40	<10	<10	<10	X
		60	<10	<10	<10	<10
GORE® GR	6.4	20	<10	X	X	X
		40	<10	<10	20	X
		60	<10	<10	<10	<10

Key:
 <10: The leakage rate is not exceeded.
 X: The leakage rate is not achieved at Q_A as part of the measuring program.

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