

## CERTIFICATE

The fibre sheet gasket material **NAM 30Y** of

**FEROLITE JOINTINGS LTD.**  
**C-178, Site No. 1, B.S. Road Industrial**  
**Area**  
**IND – 201001 Ghaziabad**



was tested according to the European Standard EN 13555 (dated July 2014).  
 Deviant from the standard only single tests have been performed.

The following gasket parameters were determined:

Minimum stress to seal $Q_{min/L}$ (at assembly), $Q_{Smin/L}$ (after off-loading) for $p = 40$ bar											
L [mg/(s*m)]	$Q_{min/L}$ [MPa]	$Q_{Smin/L}$ [MPa]									
		$Q_A = 10$ MPa	$Q_A = 20$ MPa	$Q_A = 40$ MPa	$Q_A = 60$ MPa	$Q_A = 80$ MPa	$Q_A = 100$ MPa	$Q_A = 120$ MPa	$Q_A = 140$ MPa	$Q_A = 160$ MPa	
$10^0$	5			5	5	5	5			5	
$10^{-1}$	21			5	5	5	5			5	
$10^{-2}$	40			38	5	5	5			5	
$10^{-3}$	47				7	5	5			5	
$10^{-4}$	54				14	8	5			5	
$10^{-5}$	66					21	12			6	
$10^{-6}$	113									94	

Relaxation ratio $P_{OR}$ for stiffness $C = 500$ kN/mm												
Gasket stress	temperature 1 [25 °C]		temperature 2 [200 °C]									
	$P_{OR}$	$\Delta e_{GC}$ [mm]	$P_{OR}$	$\Delta e_{GC}$ [mm]	$P_{OR}$	$\Delta e_{GC}$ [mm]	$P_{OR}$	$\Delta e_{GC}$ [mm]	$P_{OR}$	$\Delta e_{GC}$ [mm]	$P_{OR}$	$\Delta e_{GC}$ [mm]
Stress level 1 [30 MPa]	0.96	0.011	0.85	0.038								
Stress level 2 [50 MPa]	0.97	0.015	0.91	0.039								
Stress level 3 [90 MPa]	0.98	0.015	0.80	0.150								
$Q_{Smax}$	240 MPa		240 MPa									

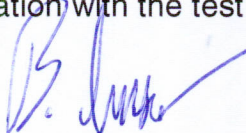
  

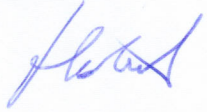
Sekant unloading modulus of the gasket $E_G$ [MPa] and gasket thickness $e_G$ [mm]												
Gasket stress [MPa]	ambient temperature		temperature 1 [200 °C]									
	$E_G$ [MPa]	$e_G$ [mm]	$E_G$ [MPa]	$e_G$ [mm]	$E_G$ [MPa]	$e_G$ [mm]	$E_G$ [MPa]	$e_G$ [mm]	$E_G$ [MPa]	$e_G$ [mm]	$E_G$ [MPa]	$e_G$ [mm]
0		1.620		1.560								
1		1.509		1.526								
20	3178	1.460		1.457								
30	3024	1.438	9321	1.447								
40	3499	1.416	6261	1.432								
50	3779	1.396	5289	1.415								
60	4492	1.381	5381	1.400								
80	5716	1.362	6299	1.371								
100	7084	1.348	6901	1.324								
120	8305	1.339	6678	1.269								
140	9550	1.330	7218	1.222								
160	10228	1.322	7209	1.182								
180	10958	1.315	7783	1.148								
200	11462	1.307	7605	1.118								
220	11619	1.299	7825	1.094								
240	11007	1.290	7205	1.071								

This certificate is only valid in combination with the test report 3029881/-.

amtec Services GmbH

Lauffen, February 10<sup>th</sup>, 2016

  
 Dipl.-Ing. B. Unser  
 Test Engineer

  
 Dipl.-Ing. F. Herkert  
 Head of Laboratory