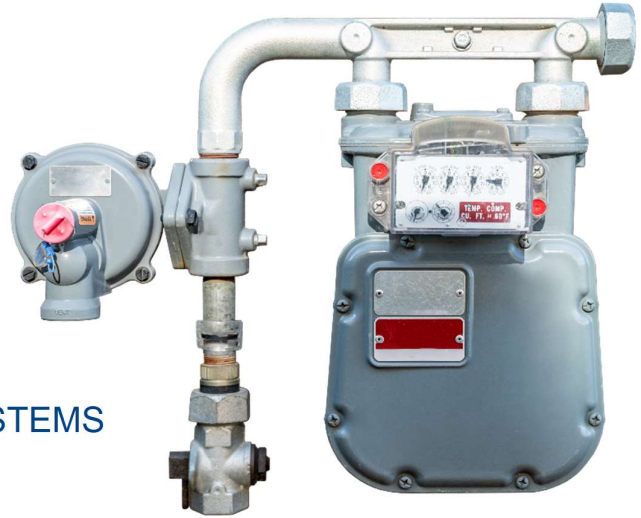


GAS METER COMPONENTS

DIAPHRAGMS & SEALS FOR GAS CONTROL & MEASUREMENT SYSTEMS



Being at the heart of gas meters, **diaphragms** are largely responsible for the level of precision of their measurement - its primary function.

Requested to be reinforced, thin, flexible and gas-tight, dedicated material technologies are necessary to cope with such elevated requirements.

Freudenberg offers two possible ways: Coated Fabric and Dispersed Fibre Technology (DFT).

DFT offers a set of unique features, allowing a wide range of functional benefits to the gas meter application.

For coated fabric materials we have a purpose-built rubber coating line specializing in thin wall diaphragms.

With an extensive portfolio of independently accredited elastomeric materials, Freudenberg can supply a broad product offering in the gas distribution arena not only for downstream applications, but also large scale seals for upstream.

VALUES FOR THE CUSTOMER

- Design and material competence in diaphragms and seals for a complete range of gas distribution applications
- More than 50 years of coated fabric experience.
- Extended design possibilities with DFT, allowing integration of static seals and ease of assembly
- Enhanced dynamic properties with DFT, e.g. smooth actuation, low hysteresis and improved low temperature resilience paired with longer lifetime
- Tailor-made customer specific materials, independently accredited to international gas standards such as EN549.

MATERIAL TECHNOLOGIES FOR REINFORCED DIAPHRAGMS

Coated Fabric

- double sided dip coated spread
- flat & simple geometries
- no static sealing



DFT®

- complex 3D designs
- static seal integrated
- longer lifetime
- enhanced dynamic properties



PRODUCT OFFERING

- **Gas Meter Diaphragms**
 - domestic and industrial sized
 - DFT or coated fabric
- **Gas Regulator Diaphragms**
 - primary and secondary diaphragms
 - DFT or non-reinforced rubber
- **Valve Seals for Gas Meters**
 - with or without bonded metal insert
- **Diaphragms for Pressure Valves**
 - for mid-stream gas distribution gas control valves up to 500 mm dia.



FEATURES AND BENEFITS

One stop supply of elastomeric gas control components – such as diaphragms and seals - for applications such as gas meters, regulators and valves from downstream to upstream distribution.

Material competence with dedicated development lab, providing

- Tailor made materials, including NBR, HNBR, FKM, EPDM and ECO
- DFT material technology for diverse base polymer groups
- Low temperature materials to EN549:2019
- Ozone compliance to EN549 :2019.

Innovative Material Technologies for diaphragms to match customer's requirements.

Certification to Gas Industry Standards for a wide range of materials (see below)

EN549 Compounds - Material Properties Summary			Acrylonitrile Butadiene Rubber (NBR)		Epichlorohydrin (ECO)	
Property	Unit	Test Method	Range		Range	
Hardness	IRHD	ISO 48	43	77	53	70
Tensile Strength	MPa	ISO 37	9.9	18	9.3	13.3
EAB	%	ISO 37	383	622	467	615
Compression Set		ISO 815				
72 hrs @ -20°C	%		25.5	42.1	23.5	31.3
Resistance to ageing		ISO 188				
Tensile Strength change	%		-3.6	12.4	-3.9	0.8
EAB change	%		-17	4.3	-10.7	-8.1
Hardness change	IRHD		1	7	0	2
Resistance to gas		ISO 1817				
Change in mass after immersion	%		2.9	7.8	-3	-1.4
Change in mass after drying	%		-9.3	-6.5	-6.3	-4.7
Resistance to lubricants		ISO 1817				
Hardness change	IRHD		-8	-1.4	4	6
Change in mass %			-0.5	1.8	-6.3	-4.4
Ozone Resistant			Yes		Yes	

Full list of data is available on request

Contact Us

Our experienced and dedicated staff are on hand to provide process support from initial concept through qualification and delivery. For further details, or if you have a current or future project requirements, please contact our team on the details below.

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