GREENE, TWEED & Co. GmbH
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Overview for Standard Elastomers

GREENE, TWEED - Compound	Min. Application Temp. (°C)	Max. Application Temp. (°C)	Hardness (Shore A)	Colour	Chemical Compatibility, Examples	Other's
CHEMRAZ® 504	-30	230	65	black	**Universal Applications Available as O-Ring, Slab or Customer designed Part**	Vacuum Applikations
CHEMRAZ® 505	-30	230	75	black		The established standard, especially for Ethylene Oxyde
CHEMRAZ® 510	-30	230	90	black		for higher gaps and pressures
CHEMRAZ® 514	-30	230	70	white		
CHEMRAZ® 526	-20		95	black		Explosive Decompression
CHEMRAZ® 605	-20	260	80	black		Like 505, for higher temperatures
CHEMRAZ® 615	-15	325	80	black	Universal application, not in hot Amines and Hot Water/Steam > 100°C	High temperature
FLUORAZ® 790	-10	275	95	black	Hot Water/Steam, heat exchanger oil, Hydrogene Sulfide, Heavy Full Oil, Mineral Oil, Hydraulic Oil, Brake Fluid, Amine, Ozone and Gamma Radiation. Not in Acetone, Benzene, Aromatic Hydrocarbons, Chlor-Hydrocarbons, Freons and Ketones	
FLUORAZ® 797G	-10	275	80	black		Standard
FLUORAZ® 799G	-10	275	90	black		Explosive Decompression
HNBR 207G	-40	175	70	black	Lubricants based on paraffine and silicone, Amines, Acids, Bleach Lyes, Ozone, Hydrogene Sulfide and Amino-Corrosion-Inhibitors. Not in Phosphate Esters, Chlorinated Hydrocarbons, Ketones, Brake Fluids, high concentrations of H_2S and Phenoles	Optimized abrasion resistance
HNBR 208G	-40	150	80	black		
HNBR 209G	-35	150	90	black		Explosive Decompression
HNBR 965G	-54	135	74	black		High abrasion resistance, low temperature applications
FKM 776G	-40	205	62	black	Hydraulic Oil based on paraffine, diester- or silicone-ester Lubricants, many acids and bases, Hydrocarbons, Clorinated Hydrocarbons, hot Mineral Oil and Emulsions, Hydraulic Fluid of low flamability, Alcohol and Ketones. Not for Hot Water/Steam > 100 °C, Amines, Methanole and higher concentrations of H_2S, NAOH and Acetic Acid	Vacuum applications
FKM 777G	-40	205	75	black		Especially at low temperature
FKM 779G	-40	205	90	black		
FKM 926G	-30	232	90	black		Explosive Decompression
FKM 935	-37	232	90	black		Explosive Decompression, especially for methanol and H_2S with concentrations up to 15%
EPDM 843G	-45	150	80	black	Hot Water/Steam, Animal Grease, Acetone, diluted Acids, bases (CIP/SIP) and good electric insulation. Not for further fatty and oily substances	EPDM 843G can be used in Hot Water/Steam up to 180 °C
EPDM 815G	-45	150	70	black		

Further Products : ARLON (PEEK)- semi-finished and finished parts, O-Rings with Large Diameter, FDA-compliant materials, special compounds and designs for Aerospace, Semiconductor-Industry and Bio/Medical (ORTHTEK), High Pressure Seals for transverse applications (GT-Ring) and rotary applications (MSE-Lip-Seals), FEP-encapsulated O-Rings, high loadable AR- and WR- Bearings made of strong Composite Materials.

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Food and Drug Administration
GT Compounds according to the FDA regulations

EPDM perox. cured	**Compound**	**Temp.[°C]**	**Remarks: in accordance with FDA 21CFR 177.2600**
60° Shore A, black	808G	-45 / +150	Suitable for Hot Water /Steam, Acetone, diluted Acids, Bases (CIP/SIP), Alcohole and Ketones, in accordance with USP Class VI
70° Shore A, black	815G	-45 / +150	
80° Shore A, black	816G	-45 / +150	
FKM	**Compound**	**Temp.[°C]**	**Remarks: in accordance with FDA 21CFR 177.2600**
60° Shore A, black	722G	-28 / +230	Suitable for Acids und Leach Lye, hot Oils
70° Shore A, black	716G	-28 / +230	
80° Shore A, black	775G	-28 / +230	
FEP-encapsulated, core material:	**Compound**	**Temp.[°C]**	**Remarks: Jacket in accordance with FDA 1CFR 177.1550**
FKM (Viton®), black	460	-20 / +200	Chem. Compatibility similar to PTFE, mainly static applications, hollow core available
Silicone, rot	450	-55 / +200	
PFA-encapsulated, core material:	**Compound**	**Temp.[°C]**	**Remarks: Jacket in accordance with FDA 21CFR 177.1550**
FKM (Viton®), black	463	-20 / +200	Chem. Compatibility similar to PTFE, mainly static applications, hollow core available
Silicone, red	453	-55 / +250	
FLUORAZ® FEPM	**Compound**	**Temp.[°C]**	**Remarks: in accordance with FDA 21CFR 177.2600 (e, f) and USP Class VI**
80°Shore A, black	SD890G	-5 / +275	FDA-approval FCN 000246, for use in Hot Water / Steam (CIP/SIP), oily substances ...
70°Shore A, beige	SD784G	-5 / +275	
CHEMRAZ®FFKM	**Compound**	**Temp.[°C]**	**Remarks: in accordance with FDA 21CFR 177.2400 (d) und USP Class VI**
80°Shore A, black	SD625	-20 / +260	FDA-approval FCN 000245
80°Shore A, white	SD517	-30 / +230	FDA-approval FCN 000247
80°Shore A, beige	SD585	-30 / +230	FDA-approval FCN 000247

F.D.A. - Food and Drug Administration, materials in contact with Beverage/Food and Pharmaceutics

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Overview for Encapsulated O-Rings

Material for Jacket and Energizer	Minimum Temperature permanent [°C]	Maximum Temperature permanent [°C]	Colour	Compound	Remarks
FEP encapsulated Viton® (FKM)	-20	200	black	460	The outer FEP-, PFA or ETFE-jacket protects the internal ring against chemical attack. The internal ring works as an energizer. The metal spring has a more well-balanced elasticity and a more constant sealing force (see below) compared to an O-Ring solution.
PFA encapsulated Viton® (FKM)	-20	200	black	463	
FEP encapulated Silicone	-55	200	red	450	
PFA encapsulated Silicone	-55	250	red	453	
FEP with 17-7 PH SS - spring	-170	205	transparent	470	Spring according to 1.4568
FEP with Elgiloy®-spring	-170	205	transparent	471	Spring according to 2.4711
FEP with Inconel X-750 - spring	-170	205	transparent	472	Spring according to 2.4669
PFA with 17-7 PH SS - spring	-170	260	transparent	473	Spring according to 1.4568
PFA with Elgiloy®-spring	-170	260	transparent	474	Spring according to 2.4711
PFA with Inconel X-750 - spring	-170	260	transparent	475	Spring according to 2.4669
ETFE with 17-7 PH SS - spring	-170	150	transparent	476	Spring according to 1.4568, limited for amines, ketones and furanes
ETFE with Elgiloy® spring	-170	150	transparent	477	Spring according to 2.4711, limited for amines, ketones and furanes
ETFE with Inconel X-750 - spring	-170	150	transparent	478	Spring according to 2.4669, limited for amines, ketones and furanes
PTFE, solid	-220	260	white	3010	mainly static, from 1 to 2900 mm in diameter, according to FDA 21CFR 177.1550

Further Products: ARLON□(PEEK)-Semi-Finished Parts and Customer Designs; O-Rings with Large Diameter; FDA-Compounds for CHEMRAZ□, FLUORAZ□, FKM, HNBR and EPDM; Special Compounds for Aerospace, Semiconductor and Biomedical-Industry (Orthtek□); High Pressure Seals for transverse (GT□-Ring) and rotary applications (MSE□-Lip-Seal); AR□- and WR□-Bearings for high load made of strong Composites.