Why Critical Application Manufacturers Insist upon Boyd Corp's Perfluoroelastomer O-Rings

Perfluoroelastomer Compounds are terpolymers of tetrafluoro-ethylene, (TFE) perfluoromethyl-vinyl ether (PMVE) and a cure site monomer. (CSM) This results in a fully fluorinated monomer that provides exceptional chemical resistance.

Manufacturers of equipment that subject O-Rings to harsh environments or aggressive chemicals depend on Boyd Corp's Perfluoroelastomer compounds for the following reasons:

- Boyd Corp has Laboratory Facilities to assist with Compound Recommendations and a Track Record in Providing Perfluoroelastomer Solutions to Manufacturers in the Chemical and Semiconductor Industries.

Please check with us Today! See what Perfluoroelastomer compound would be best for your special application and what similar equipment we have provided solutions for in the past.

- Boyd Corp's Perfluoroelastomer Compounds begin with the Best Raw Materials:

Solvay Solexis or 3M base elastomers are used exclusively to assure complete compliance to industry standards.

- Boyd Corp Perfluoroelastomer Compounds are Generally Quickly Available:

Production O-Rings are typically available within 3 weeks of receiving your order.

- You Receive Complete Documentation

Every O-Ring is shipped double bagged with complete Batch# and Cure Date information and can incorporate customer part numbers on all labels and paperwork.

- Boyd Corp offers Peroxide and Triazine cured Perfluoroelastomer Compounds:

Peroxide Cure provides superior chemical resistance while Triazine Cure offers heat resistance to 310C.

- Boyd Corp Perfluoroelastomers Provide Ultra High Purity and Extremely Low Contamination:

Boyd Corp perfluoroelastomers are manufactured and packaged in Class 100,0000 cleanroom workstations.

- Boyd Corp's Perfluoroelastomers can be Manufactured into a Variety of Custom Sizes and Shapes:

Tooling can be made for custom size O-Rings or custom molded gasket shapes as required for your application.

Boyd Corp Perfluoroelastomer Compounds	**Cure Method**	**Duro**	**Delivery**	**Popular Competitive Compounds DuPont I/S**	**FNG**	**GRN TWD**	**Typical Usage**
PF10-80 Black Perfluoroelastomer	Peroxide	80	3 Weeks	4079, 1050	487	653	Broad Chemical & Thermal Resistance
PF15-80 Black Perfluoroelastomer	Peroxide	80	3 Weeks	6375	481	505	General Chemical Resistance
PF20-80 Black Perfluoroelastomer	Triazine	80	3 Weeks	4079	Z7257	653	Excellent High Temp, Poor Steam and Amine Resistance
PF25-80 White Perfluoroelastomer	Peroxide	80	3 Weeks			E38, 657	Low Particle Generation
PF30-80 White Perfluoroelastomer	Peroxide	80	3 Weeks	8085, 8475			Low Particle Generation, Excellent for Plasma
PF35-80 Translucent Perfluoroelastomer	Peroxide	80	3 Weeks	8002			Low CS, Exceptional Outgassing, Poor Phys Properties
PF40-80 White Perfluoroelastomer	Peroxide	80	3 Weeks	2037		513, 520	General Chemical Resistance & Good Physical Properties
PF45-80 Off White Perfluoroelastomer	Peroxide	80	3 Weeks	1050LF, 3075		505, 584, 526	For Aggressive Amines and Chemical Processes
PF50-80 Translucent-Brown Perfluoroelatomer	Peroxide	80	3 Weeks	9100		XRZ	Low Metallic Ion, Exceptional Outgassing, Thermal Stability

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BOYD CORPORATION

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Boyd Corp's High Performance Perfluoroelastomer Technical Reports

Perfluoroelastomer Compounds are terpolymers of tetrafluoroethylene (TFE), perfluoromethylvinyl ether (PMVE) and a cure site monomer. (CSM) Perfluoroelastomers provide immunity to chemical attack due to the saturation along the polymer backbone and high level of Fluorine which can makes these compounds extremely stable and less chemically reactive. Boyd's Perfluoroelastomer compounds provide improved resistance to a wide variety of chemicals, temperatures and plasma over that of standard commercial elastomers. To meet the most demanding purity requirements, our Perfluoroelastomer O-Rings are manufactured in **Class 100,000 Cleanroom facilities** to minimize particulates for critical vacuum applications.

Perfluoroelastomers do not perform well in Uranium Hexafluoride, Fully Halogenated Freon or some Fluorinated solvents.

Boyd Corp

Perfluoroelastomer PF10-80 PF15-80 PF20-80 PF25-80 PF30-80 PF35-80 PF40-80 PF45-80 PF50-80 Physical Properties

Durometer, Shore A	80	79	78	78	78	77	79	78	77
Tensile at Break, Mpa	15.2	13.8	11.1	17.2	21.4	18.1	15.1	16.5	11.5
Elongation at Break, %	165	133	169	141	165	230	152	162	164
100% Modulus, Mpa	10.5	10.5	6.87	8.0	14.3	4.1	9.54	5.1	6.6
Compression Set 70hrs@200C	21.7	13.9	19.6	29.2	33	32	23.2	17.1	19.8
Compression Set 70HRS@250C	32.8	46.2	24.2	49	49	51	81.2	N/A	25.4
Compression Set 70HRS@300C	46	68	31.2	61	60	N/A	N/A	N/A	34.3
Max Temperature	+300C	+260C	+310C	+230C	+310C	+230C	+230C	+230C	+310C
Low Temperature	-30C	-20C	-30C	-20C	-30C	-20C	-20C	-30C	-30C
Color	Black	Black	Black	White	Beige	Translu-cent	White	Off-White	Translu-Brown

Please check with your Boyd Corp Territory Manager for more specific chemical compatibility or detailed application recommendations.

For Semi-Conductor applications, Boyd Corp requests the customer to provide equipment maker and model so that we can review any previous testing results for suitability and record results in any new Semi-Conductor equipment.

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