



Rev. 2023/01/30

FSE Fluoroelastomer Compound / Perfluoroelastomer Compound Selection Guide

Grade	Specific Gravity g/cm3	Mechanical Properties				Heat Aging 250°C×70h				FUEL C Resistance 23°C×70hrs				Low Temperature		Processing Method			Descriptions & Features	Typical Uses
		Hardness Shore A	Tensile Strength MPa	Elongation at Break %	Compression Set % 200°C×70h	Change in Hardness	Change in Tensile %	Change in Elongation %	Change in Hardness	Change in Tensile %	Change in Elongation %	Change in Volume %	Brittle Temperature °C	Compression	Transfer	Injection	Extrusion	Bonding		
BDF: bisphenol curable copolymers. The first letter before the numbers: H - black, K-brown, R-Red, SL-Grass Green, LG-Green, LB-Blue; The first number: recipe code; The second number: hardness; The last number: requirements: 1-low compression set, 2-good hot tear, for complicated geometry																				
BDF-H2552A	1.83	54	12.5	383	24	3	4	-17	-3	-12	-19	5	-25	O	O	O	O	O	Ultra low Hardness, excellent compression molding processability.	O-rings, diaphragm, gaskets and other parts of complicated geometries etc.
BDF-H2601C	1.93	62	12.2	320	23	2	-9	-10	-3	-8	-16	4	-25	O	O	O	O	O	Excellent mold flow, improved hot tear resistance	O-rings, diaphragm, gaskets and other parts of complicated geometries etc.
BDF-H2651	1.85	66	12.6	240	23	1	10	-6	-4	-9	-12	4	-25	O	O	O	O	O	Excellent mold flow, improved mold release and good compression set	O-rings, diaphragm, gaskets and other parts of complicated geometries etc.
BDF-H2652P	1.83	63	13	350	27	1	4	-11	-3	-14	-14	3	-25	O	O	O	O	O	Resistivity 10 ¹⁰ - 10 ¹² Ω. Excellent mold flow, improved mold release and good compression set.	ESD (Static Dissipative) purpose molded parts
BDF-H2701AB	1.84	73	15.9	215	18	2	6	-22	-2	-19	-5	3	-25	O	O	O	O	O	Excellent mold flow, excellent mold release and good compression set	O-rings and gaskets, or extrusion of profile
BDF-H2701SE	2.17	70	14.3	240	20	2	-8	-16	-2	-15	-12	3	-20	O	O	O	O	O	Excellent mold flow, good extrudability, in compliance with the requirements of 21CFR 177.2600.	O-rings and gaskets, or extrusion of profile
BDF-H2702TA	1.96	69	12.5	360	31	2	2	-18	-3	-14	-22	5	-25	O	O	O	O	O	Excellent mold flow,improved tear resistance and bonding adhesion	bellows, oil seals and other molded parts of complicated geometry.
BDF-H2751X	1.96	76	13.8	195	14	1	-9	-11	-2	-19	-5	3	-25	O	O	O	O	O	Excellent mold flow, excellent mold release and low compression set, in compliance with ML-R-83248C Type II Class 1	O-rings, gaskets etc.
BDF-H2752B	1.92	75	15.7	220	19	2	3	-18	-2	-19	-8	3	-25	O	O	O	O	O	Excellent mold flow,improved tear resistance and bonding adhesion	Oil seals, stem seals and other complicated parts with metal bonding.
BDF-H2801	1.84	81	16	190	17	2	6	-16	-2	-19	-14	3	-20	O	O	O	O	O	Excellent rheology, excellent mold release and good compression set	O-rings, gaskets and other compression molding parts
BDF-H2901X	1.82	93	21.8	110	25	3	-29	-12	-1	-12	-9	1	-20	O	O	O	O	O	High Hardness grade, improved mold flow and mold release. In compliance with ML-R-83248C Type I Class 2 and NORSOK M-710	O-rings, gaskets and other parts where ROD (AED) is required
BDF-K2601B	1.93	62	12.5	255	29	2	11	-17	-3	-18	11	4	-25	O	O	O	O	O	Excellent rheology, excellent mold release and good compression set	O-rings, gaskets and other parts
BDF-K2701	1.93	71	15	230	19	1	-8	-6	-4	-9	-12	4	-25	O	O	O	O	O	Excellent mold flow, improved mold release and good compression set.	O-rings and gaskets by big scale compression moulds with multi cavities
BDF-K2752P	2.18	78	12.8	210	26	3	8	-16	-1	-18	14	3	-25	O	O	O	O	O	Excellent mold flow,improved tear resistance and bonding adhesion	Oil seals, stem seals, crank shaft seals and complicated geometries
BDF-K2802K	2.02	82	15.7	250	24	1	-6	-8	-4	-9	-12	4	-25	O	O	O	O	O	Excellent mold flow,improved tear resistance and bonding adhesion	Oil seals, stem seals, crank shaft seals and complicated geometries
BDF-LG2701	1.96	70	12.5	220	19	2	7	-18	-4	-17	-12	5	-25	O	O	O	O	O	Excellent rheology, excellent mold release and good compression set	O-rings, gaskets etc.
BDF-LG2501A	1.87	54	9.8	330	27	3	4	-21	-3	-12	-15	5	-25	O	O	O	O	O	Very low hardness, excellent mold flow and mold release.	Miscellaneous products of complicated geometry.
BDF-L2652Y	1.96	66	13.2	350	28	2	-9	-10	-3	-14	-16	3	-25	O	O	O	O	O	Excellent mold flow, improved mold release and good hot tear	Miscellaneous products of complicated geometry.
BDF-LG2752	2.05	75	13.5	250	23	2	-5	-8	-2	-15	-10	4	-25	O	O	O	O	O	Excellent mold flow,improved tear resistance and bonding adhesion	Oil seals, stem seals, crank shaft seals and complicated geometries
BDF-R2852	1.92	82	13.5	240	24	2	-5	-13	-3	-12	-9	4	-25	O	O	O	O	O	High Hardness, improved mold flow and mold release	High hardness O-rings, gaskets etc.
BDF-LB2701	1.96	70	13	230	19	2	-7	-9	-3	-7	-14	4	-25	O	O	O	O	O	Excellent mold flow, excellent mold release and good compression set	O-rings, gaskets and other molded parts
BDF-LB2752	2.01	75	13.4	250	23	1	-8	-10	-2	-11	-11	3	-25	O	O	O	O	O	Excellent mold flow,improved tear resistance and bonding adhesion	Oil seals, stem seals, crank shaft seals and complicated geometries
BDT: bisphenol curable terpolymers. The first letter before the numbers: H - black, K-brown, R-Red, SL-Grass Green, LG-Green, LB-Blue; The first number: recipe code; The second number and the third number: Hardness; The last number: requirements: 1-low compression set, 2-good hot tear, for complicated geometry																				
BDT-H3601A	1.87	61	12.3	260	27	1	-4	-13	-2	-12	-14	2	-35	O	O	O	O	O	Excellent mold flow, mold release, good resistance to the fuel containing alcohols	O-rings, gaskets and other molded parts
BDT-H3703	1.89	71	13.4	350	45	3	28	-30	-1	-11	-16	2	-35	O	O	O	O	O	Excellent flowability and extrudability; good resistance to the fuel containing alcohols; good adhesion with ECO or NBR	hose extrusion processes.
BDT-H3701A	1.85	73	14.8	265	31	2	-16	8	-2	-16	-11	4	-35	O	O	O	O	O	Excellent mold flow, mold release, good resistance to the fuel containing alcohols	O-rings, gaskets and other molded parts
BDHT-H3701	1.97	71	15.2	210	29	-1	-14	19	-1	-9	-12	1	-40	O	O	O	O	O	Excellent mold flow, mold release, improved resistance to the fuels containing alcohols better than standard terpolymers.	O-rings, gaskets and other molded parts
BDHT-R3701	2.06	72	14.5	230	32	2	-11	7	-1	-12	-14	1	-40	O	O	O	O	O	Excellent mold flow, mold release, improved resistance to the fuels containing alcohols better than standard terpolymers.	O-rings, gaskets and other molded parts
BDTL-H3751	1.82	75	15.8	220	27	3	-16	12	-4	-16	-11	5	-45	O	O	O	O	O	Excellent mold flow, excellent mold release and good compression set, improved low temperature flexibility	O-rings, gaskets and other molded parts
BDT-R3752	1.92	77	13.8	260	29	2	-13	-11	-2	-12	-11	2	-30	O	O	O	O	O	Excellent mold flow,hot tear resistance, bonding adhesion, good resistance to the fuel containing alcohols	Oil seals, stem seals, crank shaft seals and complicated geometries
BDT-R3801	1.92	79	14.7	210	27	2	-11	-12	-2	-6	-13	2	-30	O	O	O	O	O	Excellent mold flow, mold release, good resistance to the fuel containing alcohols	O-rings, gaskets and other molded parts
BDT-LG3701	2.02	72	14.3	220	28	2	-10	-11	-2	-12	-11	2	-30	O	O	O	O	O	Excellent mold flow, mold release, good resistance to the fuel containing alcohols	O-rings, gaskets and other molded parts
BDT-LB3752	2.05	76	14.5	230	30	2	-8	-12	-2	-9	-12	2	-30	O	O	O	O	O	Excellent mold flow, hot tear resistance,bonding adhesion, good resistance to the fuel containing alcohols	Oil seals, stem seals, crank shaft seals and complicated geometries
BDP: Peroxide curable series; BDPL: peroxide curable low temperature series; BDBR: peroxide cured base resistant series. The first letter before the numbers: H - black, K-brown, R-Red, SL-Grass Green, LG-Green, LB-Blue; The first number: recipe code; The second number and the third number: Hardness; The last number: requirements: 1-low compression set, 2-good hot tear, for complicated geometry																				
BDP-H7701	1.98	73	17.3	290	20	2	-9	-13	-2	-4	-9	2	-35	O	O	O	O	O	Excellent mold flow, hot tear resistance, bonding adhesion, good resistance to coolant	Injection molding of cylinder head gaskets, O-rings and other complicated geometries
BDP-H7902	1.96	93	27	180	33	1	-3	-11	-2	-6	-10	2	-30	O	O	O	O	O	Excellent mold flow, mold release, excellent chemical steam,acid resistance	Oilfield packers, heat exchanger gaskets, AED O-rings
BDP-H8751B	1.85	77	22	245	23	1	-9	+14	-1	-5	-9	1	-35	O	O	O	O	O	Excellent mold flow, mold release, excellent chemical steam,acid resistance	Seals for power lithium battery
BDP-H3652T	1.92	68	23	360	35	0	-13	+21	-1	-7	-9	1	-35	O	O	O	O	O	Excellent calendaring property, improved bonding adhesion to VMQ, excellent chemical steam,acid resistance	The inner layer of FKM-VMQ type turbo hoses
BDP-K7702	2.03	70	17	250	25	2	-5	-7	-1	-11	-12	2	-30	O	O	O	O	O	Peroxide cure, superior low temperature elastic and sealing property, excellent resistance to chemical media, vapour and acids.	3rd generation low friction oil seal
BDPL-H2701	1.83	72	18	192	20	2	-12	-7	-2	-9	-5	3	-40	O	O	O	O	O	Peroxide curable low temperature grade, t10-24, excellent chemical resistance and low temperature property.	fuel injector O-ring and other low temperature sealing parts
BDPL-H3701	1.82	69	18	245	24	2	-14	-8	-3	-11	-6	4	-45	O	O	O	O	O	Peroxide curable low temperature grade, t10-30, excellent chemical resistance and low temperature property.	fuel injector O-ring and other low temperature sealing parts
BDPL-H3901X	1.80	90	22.9	155	30	2	-16	-5	-3	-19	-7	4	-30	O	O	O	O	O	Peroxide curable low temperature grade, in compliance with ML-R-83248C Type I Class 2 and NORSOK M-710	O-rings, gaskets and other parts where ROD (AED) and low temperature flexibility are required
BDPL-H4701	1.96	70	14	170	22	2	-13	-5	-2	-13	-7	4	-50	O	O	O	O	O	Peroxide curable low temperature grade, t10-40, excellent chemical resistance and low temperature property.	Seals requiring ultra low temperature resistance and excellent chemical resistance
BDBR-H1701	1.60	70	14	230	36	2	-18	-9	-3	-15	-11	4	-10	O	O	O	O	O	Peroxide curable, excellent chemical steam,acid resistance, improved processing ability	Oil seals, gasket, cables and other parts requires chemical, steam and acid/alkali resistance
BDFF Perfluoroelastomer: Applicable for special requirements: The first letter before the numbers: H - black, The second letter means the type of gum; The first two numbers means the temperature resistant grades. The last two numbers means the shore A hardness.																				
BDFF-T77700	2.07	70	21.4	240	17									O	O	O	O	O	nano particle filled high purity FFKM, significantly reducing the potential for particle generation during plasma etching, maximum service temperature up to 275 °C	O-rings, gaskets and other molded parts for most dry (plasma etching, PECVD,LPCVD, metal CVD, PVD, ALD, plasma cleans) and wet semiconductor processes (wafer cleaning, polymer removal, wet etching, polishing).
BDFF-P3172D	2.06	72	14.5	230	14									O	O	O	O	O	nano particle filled high purity FFKM, significantly reducing the potential for particle generation during plasma etching, maximum service temperature up to 315 °C	O-rings, gaskets and other molded parts for most dry (plasma etching, PECVD,LPCVD, metal CVD, PVD, ALD, plasma cleans) processes where heat stability is required.
BDFF-B3073T	2.08	73	19.2	260	28									O	O	O	O	O	high purity FFKM, maximum service temperature up to 300 °C	O-rings, gaskets and other molded parts for semiconductor thermal processes (i.e., oxidation, diffusion furnace, LPCVD, RTP, lamp anneal, etc.)
BDFF-H2380W	1.93	81	17.6	185	10									O	O	O	O	O	high purity FFKM, maximum service temperature up to 230 °C	O-rings, gaskets and other molded parts that require excellent balance of performance characteristics required for semicon wet processing environments.
BDFF-HA2370	2.01	70	18.2	150	16									O	O	O	O	O	Peroxide curable, superior resistance to the widest range of chemicals, including alcohols, acetones, acids, bases, amines, service temperature up to 290 °C	O-rings, gaskets and other molded parts for chemical industry
BDFF-HB2575	2.02	75	18.6	160	12									O	O	O	O	O	Peroxide curable, superior resistance to the widest range of chemicals, including alcohols, acetones, acids, bases, amines, service temperature up to 260 °C	O-rings, gaskets and other molded parts for chemical industry
BDFF-HC2775	2.03	75	17	190	19									O	O	O	O	O	Peroxide curable, superior resistance to the widest range of chemicals, including alcohols, acetones, acids, bases, amines, service temperature up to 275 °C	O-rings, gaskets and other molded parts for chemical industry
BDFF-HD3070	2.01	72	17.5	200	17									O	O	O	O	O	Peroxide curable, superior resistance to the widest range of chemicals, including alcohols, acetones, acids, bases, amines, service temperature up to 300 °C	O-rings, gaskets and other molded parts for chemical industry
BDFF-HE3175	2.01	75	16.5	155	12									O	O	O	O	O	Triazine curable, superior resistance to wide range of chemicals except for amines, service temperature up to 315 °C	O-rings, gaskets and other molded parts for chemical industry

Note: Properties of the vulcanizates depend on formulation, including curative system and fillers(types & ratio), as well as the curing conditions.

Typical data not for specification purpose.

Other compounds could be designed and produced by requested.

This guide is an overview of the commonly used grades of FSE.

FSE keeps continuous improvement and development of new grades for customer's needs.