

JSR DYNARON[®]

Hydrogenated polymer



JSR DYNARON[®] is a hydrogenated polymer with unique molecular structure developed by JSR Corporation based on its own polymer synthesis technology. JSR DYNARON[®] is classified into five types as described below.

HSBR

Hydrogenated styrene butadiene rubber

SEBC

Styrene-(ethylene/butylene)-crystalline block copolymer

CEBC

Crystalline block-(ethylene/butylene)-crystalline block copolymer

SEBS

Styrene-(ethylene/butylene)-styrene block copolymer

f-DYNARON

(functionalized DYNARON with a polar group):

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Applications of
JSR
DYNARON®

◎ Characteristics and applications

Type	Characteristics	Applications
HSBR	1. HSBR type provides polypropylene (PP) compounds with better transparency and flexibility without plasticizer due to fine dispersion of HSBR.	1. Motor vehicle interior skin sheets 2. Medical bags and tubes 3. Industrial hoses 4. Adhesive layer of adhesive film
SEBC	1. SEBC type provides polyethylene (PE) compounds with better transparency and flexibility without plasticizer due to fine dispersion of SEBC.	1. Decoration film 2. Adhesive film
CEBC	1. CEBC type functions as a good compatibilizer between polypropylene (PP) and polyethylene (PE) and provides the compound with better impact resistance. 2. CEBC type can absorb a large quantity of oil.	1. Motor vehicle interior and exterior parts 2. Compound with good oil resistance
SEBS	1. SEBS type functions as a good compatibilizer between polypropylene (PP) and styrene polymers (ex. PS) or aromatic polymers (ex. PPO). 2. SEBS type provides PP compounds with better transparency and flexibility without plasticizer due to fine dispersion of SEBS.	1. Motor vehicle interior and exterior parts 2. Polymer recycling during processing in plant
f-DYNARON	1. f-DYNARON type functions as a good compatibilizer between polyolefin and polar polymers (ex. PET, PMMA, EVA).	1. PET modification 2. Polymer recycling during processing in plant

◎ Examples of applications



Food wrapping film:
High transparency, softness



Clear file:
High transparency, softness



Massaging tool:
Softness



Golf ball:
Soft feeling, high resilience



LCD protect film:
Self-adhesion

Other applications: medical tubes and bags, motor vehicle interior skin sheets, hoses, films, etc.

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Typical properties of JSR DYNARON®

◎ Typical properties

Properties	Unit	Reference Method	HSBR		
			DYNARON® 1320P	DYNARON® 1321P	DYNARON® 2324P
Styrene content	%	JSR method	10	10	16
Specific gravity	g/cm ³	JIS K7112	0.89	0.89	0.90
MFR 230 °C , 21.2N 230 °C , 98N	g/10min	JIS K7210	3.5	10.0	10.0
			28	65	79
Hardness shore A	degree	JIS K6253	42	41	50
Tensile strength	MPa	JIS K6251	8.0	8.0	10.0
Elongation at break	%		990	1060	880
Glass transition Temperature	°C	JIS K7121	-50	-50	-50
Polymer type			HSBR		

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Typical characteristics of JSR DYNARON®

◎ JSR DYNARON® Electrical properties

	Unit	Reference method	DYNARON® 1320P	DYNARON® 1321P	DYNARON® 4600P	DYNARON® 6200P
Volume resistivity※	Ω·cm	ASTM D257	1×10 ¹⁶ ≧	1×10 ¹⁶ ≧	1×10 ¹⁶ ≧	1×10 ¹⁶ ≧
Dielectric constant 10 ³ Hz	—	ASTM D150	2.37	2.38	2.45	2.35
Dielectric loss tangent 10 ³ Hz	—	ASTM D150	0.0012	0.0014	0.0013	0.0014

※Measurement: one minute after applying 500V voltage

Molding condition: press molding
Molding temperature: 160~170°C

SEBC	CEBC			SEBS				f-DYNARON	
DYNARON® 4600P	DYNARON® 6100P	DYNARON® 6200P	DYNARON® 6201B	DYNARON® 8600P	DYNARON® 8601P	DYNARON® 8903P	DYNARON® 8900P	DYNARON® 4630P	DYNARON® 8630P
20	0	0	0	15	15	35	48	5	15
0.91	0.88	0.88	0.88	0.90	0.89	0.92	0.95	0.88	0.89
5.5	0.6	2.5	<0.1	30.0	4.0	30.0	2.5	3.0	15.0
37	4.2	20	0.5	200<	45	200<	52	9	120
78	88	66	73	48	53	47	99	80	46
18.0	22.0	5.9	7.0	10.3	12.0	18.0	12.7	6.0	11.0
680	550	1100	600	900	734	720	610	550	870
-45	-55	-52	-50	-50	-53	-27	-50	-55	-50
SEBC	CEBC			SEBS				f-SEBC	f-SEBS

◎JSR DYNARON® Chemical resistance

	DYNARON® 1320P	DYNARON® 1321P	DYNARON® 4600P	DYNARON® 6200P	DYNARON® 8600P
Hydrochloric acid 10%	◎	◎	◎	◎	◎
Sodium hydroxide 10%	◎	◎	◎	◎	◎
Toluene	×	×	△	△	×
n-Heptane	×	×	△	△	×
Methyl ethyl ketone	△	△	△	△	△
Acetone	○	○	○	○	○
Methanol	◎	◎	◎	◎	◎
Gasoline	×	×	△	△	×

※JIS K 6301 Room Temperature 24 hour

◎ : Insoluble
○ : Hardly dissolve
△ : Partially swollen
× : Soluble