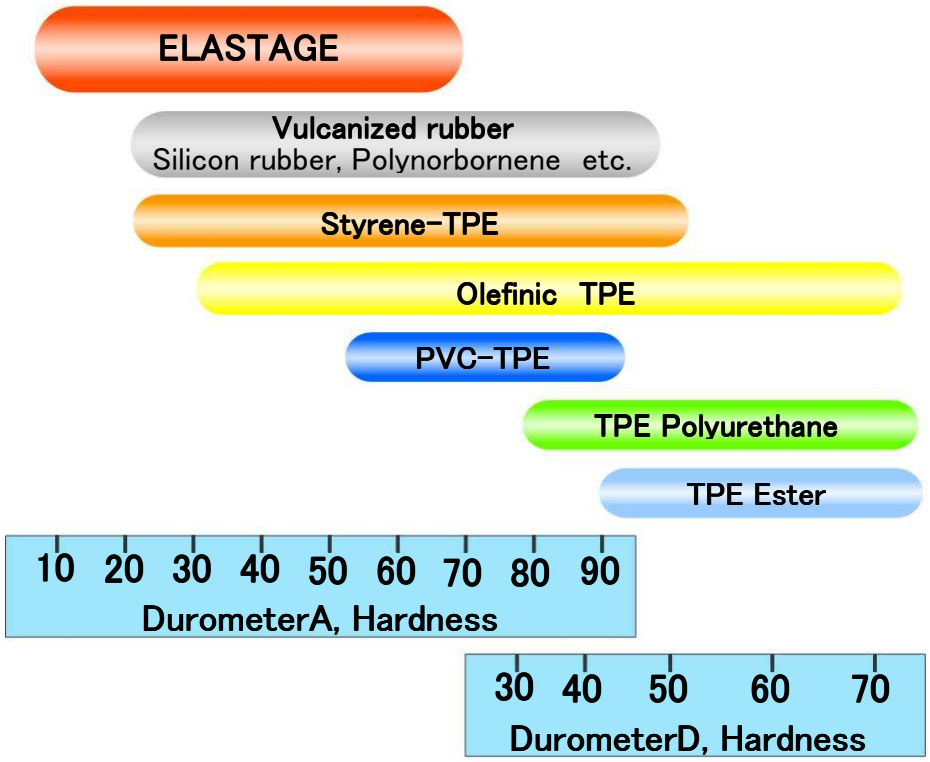
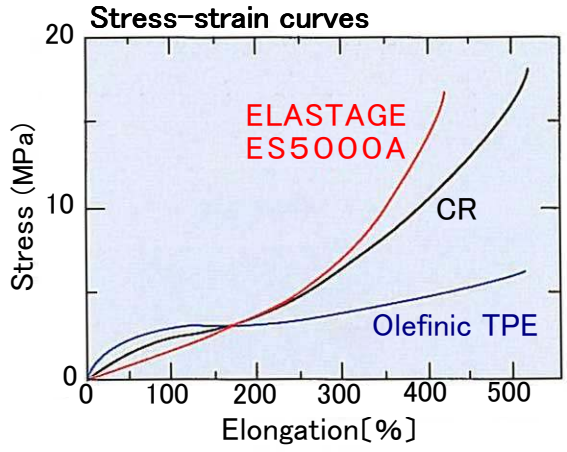
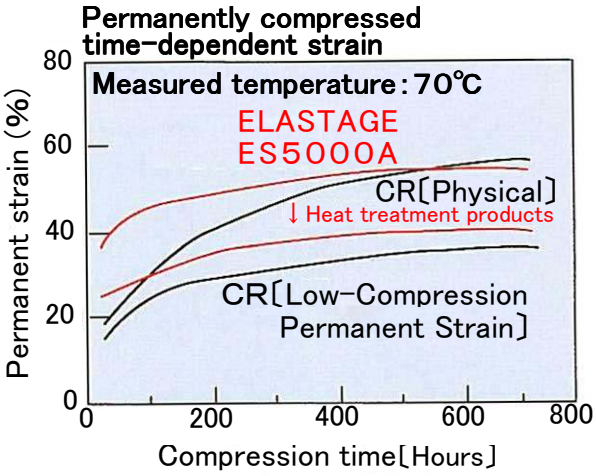
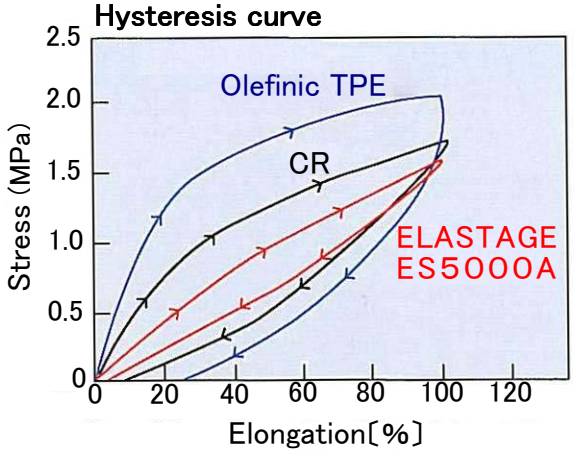
1. ELASTAGE is expected as a new material for low hardness

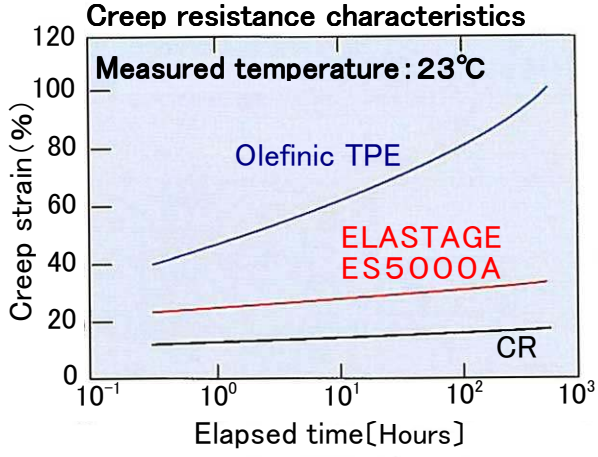


2. ELASTAGE is excellent rubber-like properties





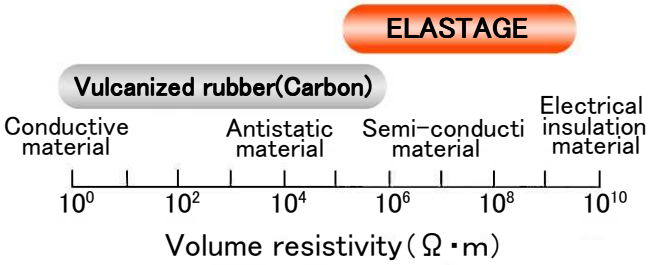




3. ELASTAGE is outstanding functionality

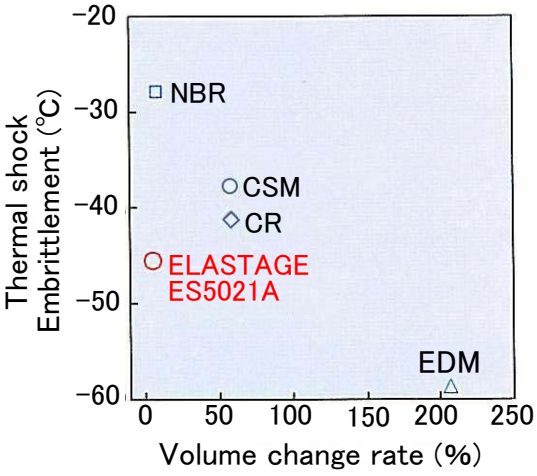
1 Electrical characteristics range from the anti-static region to semi-conductive region.

Carbonless for good repeatability and stable volume resistivity value can be obtained.
In addition, the humidity and very much dependent on the environment.



2 Low temperature resistance and grease resistance designed for special

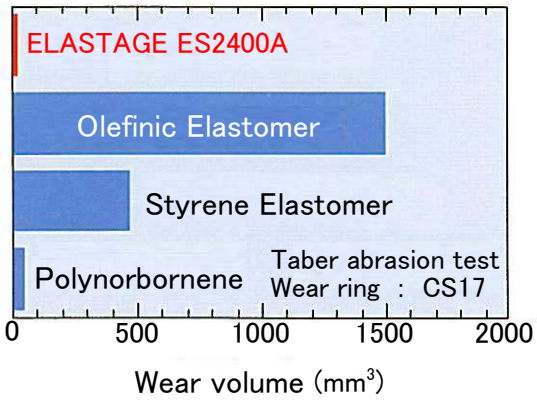
Heat aging, even with excellent non-migration.



Test method
Volume change rate :JISK6301
:No. 3oil 100°C, 70hours
Thermal shock embrittlement
:JISK6301

3 Excellent wear resistance

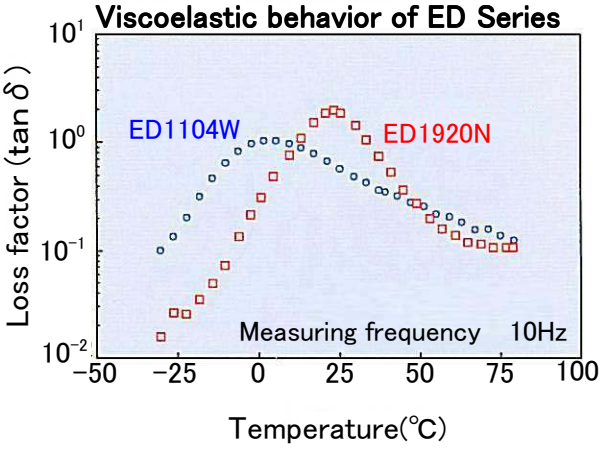
Despite the relatively low hardness and good wear resistance.



Test method
JISK6264 1 kg Load, After the 1000 revolution

4 Outstanding abrasion resistance

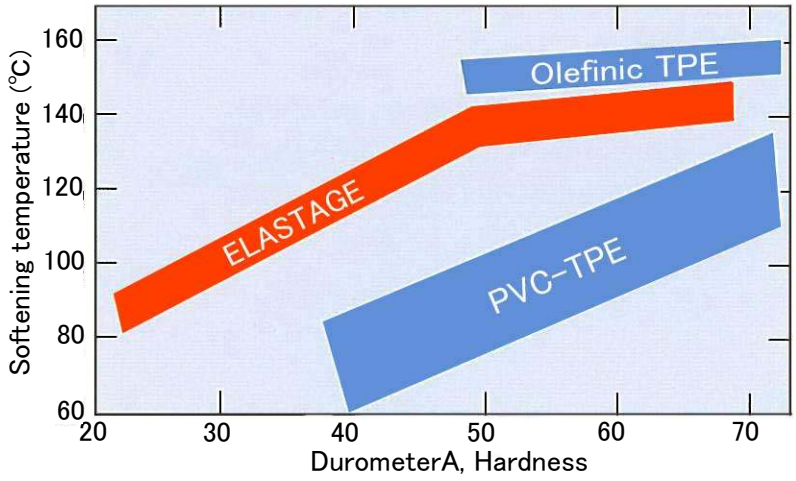
Noise and vibration absorption of energy in an instant.



4. ELASTAGE's temperature characteristics

1 Hardness and Softening temperature

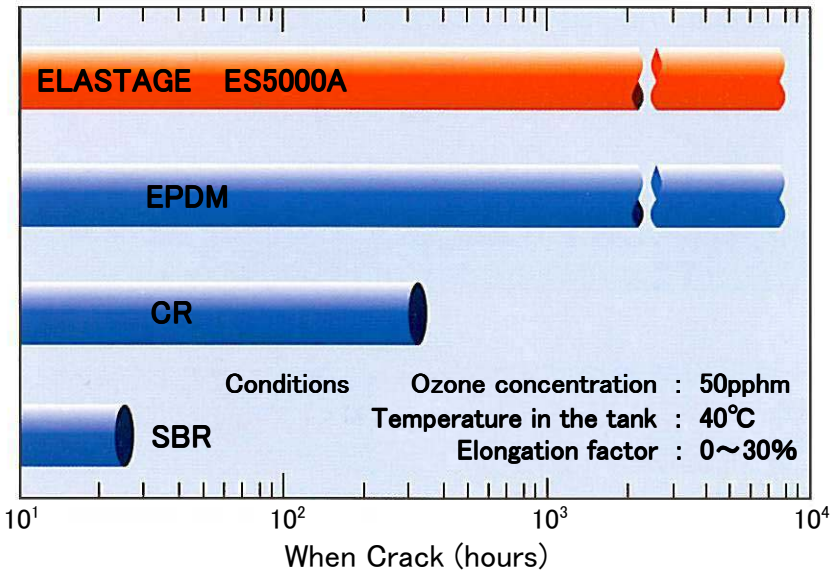
ELASTAGE for the thermoplastic softening in the high temperature.



5. ELASTAGE characteristics of the environment

1 Ozone resistance

Excellent resistance to ozone and weather resistance.



6. Recycling of ELASTAGE

Unlike vulcanized rubber, after forming a runner and can be reused.

Item	Unit	ES5000A		ES2400A	
		Virgin material	Four-pass	Virgin material	Four-pass
Tensile Strength	MPa	15.0	15.4	5.2	5.3
Elongation	%	400	410	450	460

Note) Terms of recycling
φ20mm single-shaft extruder, the cylinder / dies=170/180℃

7. Processability and Molding Condition of ELASTAGE

1 Pre-Drying

A fabulous surface of the mold will be gotten after the pre-drying of ELASTAGE is to be done. The procedure that ELASTAGE is to be pre-dried for 2-3 hours at about 80℃ will be advised, if the processed parts have foam in itself or ELASTAGE has been storages for a long time.

2 Extrusion Molding

(1)Molding Machine

The general type of screw for soft PVC compounds that has more than 22 L/D, the compression ratio of 2 to 4 will be able to be used.

The below profile is the example for an extrusion molding.

C1	C2	C3	AD	D
150	160	170	170	180 (℃)

(2)Dies

The dies will be advised to be designed that ELASTAGE is not retained in it.

3 Injection Molding

(1)Molding Machine

The general type for soft PVC compounds will be advised to be used.

C1	C2	C3	N	Mold
160	170	170	180 (℃)	40℃

4 Careful Control in the processing

It is necessary to take care not to bring about the thermal decomposition in case ELASTAGE is exposed under the high temperature for a long time.

Please pay an attention to the retention time of ELASTAGE in the cylinder of molding machine.

8. The purpose of ELASTAGE

Field	Application	Features
OA/FA	Roll and belt parts Supporting materials, mounting grommet Materials such as vinyl stopper Feature films and sheets	Abrasion resistance, Formability, Recovery characteristics, Flexibility, Low-translocated Vibration absorbing, Weatherability, Ozone resistance
General Industrial Components	Fixed members Packing Seals, etc. Electrical and electronic components Feature Films and Sheets Roll and Belt parts Horse and Tube Type Shoes and Sporting goods The sound quality improved sound insulation materials and vibration control materials	Abrasion resistance, Formability, Recovery characteristics, Flexibility, Low-translocated Vibration absorbing, Weatherability, Ozone resistance, Oil resistance, Staining, Rubber elasticity, Tactile

9. ELASTAGE　Properties of ES Series

Item	Test method	Unit	ES2120A	ES2801A	ES3201A	ES4031A	ES5021A
Specific Gravity	JISK7112	–	1.15	1.12	1.12	1.19	1.18
DurometerA Hardness	JISK6253	–	21	28	32	37	49
Tensile Strength	JISK6251	Mpa	5.8	3.3	5.5	8.8	12.0
Elongation	500mm/min	%	440	250	300	300	320
100%-M		Mpa	1.1	1.7	1.4	3.6	2.9
Tearing strength	JISK6252 B-type specimen	KN-m	16	10	8	25	20
Compression permanent strain	JISK6262						
	23℃×22h	%	17	14	8	19	15
	70℃×22h	%	37	42	42	46	41
	100℃×22h	%	40	52	47	50	46
Permanent Elongation	Tosoh Law [1] 100% Stretch	%	<3	<3	<3	<3	<3
Rebound resilience	JISK6255	%	26	68	53	28	22
Rigid temperature	JISK6261	℃	-59	-61	<-50	-48	<-45
Wear volume	JISK6264 [2] H-22	mm^3	840	230	330	180	150
Softening temperature	Tosoh Law [3]	℃	84	103	101	120	140
Heat resistant to aging	JISK6257 100℃×168h	–					
Hardness change		–	-3	+6	–	-3	-2
Weight change rate		%	<-1	12	–	<-1	<-1
Volume resistivity	JISK6911 100V	Ω・m	1×10^{7}	1×10^{7}	4×10^{7}	4×10^{5}	4×10^{7}
Surface resistivity	JISK6911 100V	Ω/□	1×10^{10}	2×10^{10}	5×10^{10}	5×10^{8}	5×10^{10}
Forming			Extrusion	Injection Extrusion	Injection Extrusion	Injection Extrusion	Injection Extrusion
Notes			Low migration	High resistance		Low migration Low-drag	Low migration

Note) The value of this article in our measurements, and the value is not guaranteed.

1) 100% elongation and holds 10 minutes, 10 minutes after removal of the remaining load represents a distortion.

2) 1 kg load, the volume of changes after the 1000 revolution

3) φ8 mounted parallel to the plate and materials, 500g load gives statics of 2 ℃ / min and the temperature rises, decreasing the thickness of 100μm the softening temperature and the temperature at the time.

10. ELASTAGE　Properties of ED Series

Item	Test method	Unit	ED3321W	ED4521W	ED5121W	ED1615U	ED1920N	ED1101W
Specific Gravity	JISK7112	–	1.18	1.19	1.19	1.18	1.38	1.17
DurometerA Hardness	JISK6253	–	34	43	49	48	56	45
Tensile Strength	JISK6251	Mpa	4.9	6.0	6.2	10.0	14.0	5.7
Elongation	500mm/min	%	340	320	290	290	450	280
100%-M		Mpa	1.6	2.6	3.3	2.6	4.4	2.3
Tearing strength	JISK6252 B-type specimen	KN-m	21	18	19	24	39	25
Compression permanent strain	JISK6262							
	23℃×22h	%	17	17	18	9	14	11
	70℃×22h	%	45	44	44	44	60	43
	100℃×22h	%	53	50	54	53	76	54
Permanent Elongation	Tosoh Law [1] 100% Stretch	%	<3	4	4	3	5	4
Rebound resilience	JISK6255	%	8	9	7	3	2	9
Rigid temperature	JISK6261	℃	-17	-17	-15	-7	1	-23
Wear volume	JISK6264 [2] H-22	mm^3	370	170	230	230	370	260
Softening temperature	Tosoh Law [3]	℃	76	106	111	114	77	109
Heat resistant to aging	JISK6257 100℃×168h							
Hardness change		–	-3	-2	-3	-3	–	–
Weight change rate		%	<-1	<-1	<-1	1.3	–	–
Volume resistivity	JISK6911 100V	Ω・m	6×10^{7}	1×10^{8}	3×10^{8}	1×10^{9}	2×10^{11}	3×10^{8}
Surface resistivity	JISK6911 100V	Ω/□	6×10^{10}	2×10^{11}	3×10^{11}	2×10^{12}	4×10^{14}	–
Forming			Injection	Injection	Injection	Injection Extrusion	Injection Extrusion	Injection
Notes			Low migration Low backlash	Low migration Low backlash	Low migration Low backlash	Ultra-low-resistance	Ultra-low-Resistance Self-exting uishing	Low backlash

Note) The value of this article in our measurements, and the value is not guaranteed.

1) 100% elongation and holds 10 minutes, 10 minutes after removal of the remaining load represents a distortion.

2) 1 kg load, the volume of changes after the 1000 revolution

3) φ8 mounted parallel to the plate and materials, 500g load gives statics of 2 ℃ / min and the temperature rises, decreasing the thickness of 100μm the softening temperature and the temperature at the time.