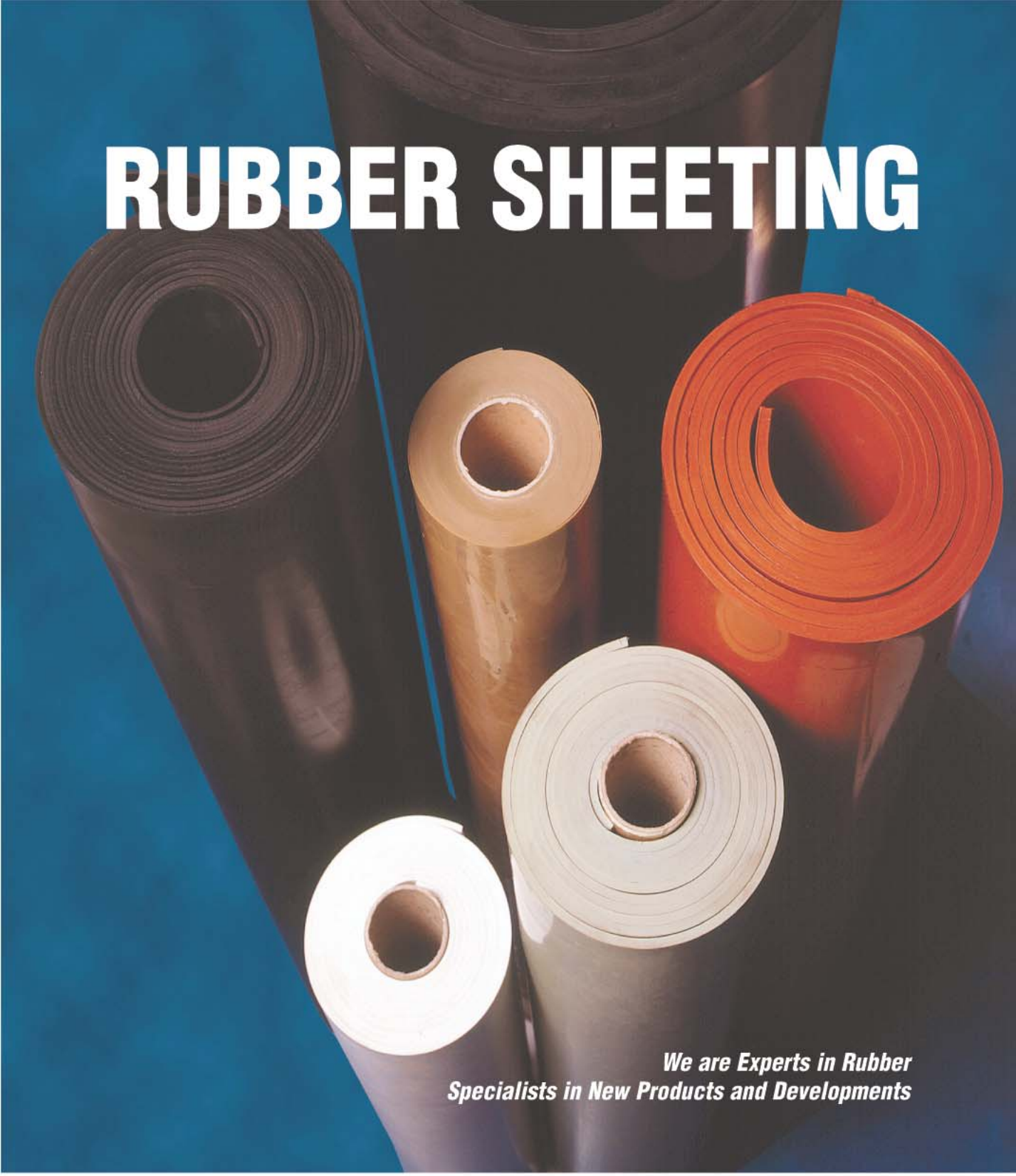


TRELLEBORG

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RUBBER SHEETING

Trelleborg has more than 100 years of experience in manufacturing of rubber products.

We invest heavily in R&D. Our sales staff, chemists, and engineers work to find better solutions for our customers through continuous development of new materials, composites, designs and production methods.

The Trelleborg group employs more than 21.600 people and is established in more than 40 countries.

ISO 9001:2000
ISO 14001:1996

We have the widest range of **RUBBER SHEETING** on the market, including Food grades, Dielectric grades, Oil resistant grades, Heat resistant grades, Wear resistant grades, Conductive grades, Fire resistant grades, Viton®, Silicone, etc.

Every year, our R&D department develops more than 70 new grades to meet our customers' specific needs.



This catalogue focuses on RUBBER SHEETING.
For the rest of our products please contact us and we will supply you with detailed information.

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ELASTOMERS

TRELLEBORG IBERCAUCHO ALAVA, S.A. is the LEADING EUROPEAN MANUFACTURER OF RUBBER SHEETING. Our extensive range includes the following elastomers:



NR	Natural Rubber
SBR	Styrene-Butadiene Rubber
CR	Chloroprene Rubber, NEOPRENE®
NBR	Nitrile Rubber
EPDM	Ethylene Propylene Diene Monomer Rubber
IIR/XIIR	Butyl Rubber
CSM HYPALON®	Chlorosulphonated Polyethylene Rubber,
PMQ/PVM/VMQ	Silicone Rubber
FKM	Fluorocarbonated Rubber, VITON®
CO/ECO/GECO-ETER	Epichlorohydrin Rubber

HYPALON® , VAMAC®, VITON® are trademarks registered by Dupont Dow Elastomers.

PRESENTATION



- Hardness between 30 and 90 Sh A.
- Both sides smooth.
- One side smooth and one side with a cloth impresion.
- Cloth impresion on both sides.
- Special finish on one or both sides.

A textile insert option increases the resistance to tearing, and improves dimensional stability.

Standard textile and metallic insert types:

- Polyester.
- Polyester/Nylon.
- Cord.
- Cotton.
- Glass fibre.
- Metallic (Steel).
- Metallic (Brass).

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PRODUCT DIMENSIONS

Thickness	Length
0.3 mm to 2 mm	Rolls of 20 m.
3 mm to 10 mm	Rolls of 10 m.
12 mm to 60 mm	Rolls of 5 m.
65 mm to 150 mm	Sheets of 2.2 m.

Width
Standard: 1,350 mm – 1,400 mm - 1,500 mm.
Special widths: Up to 1,800 mm.
Thicknesses over 65 mm 1,200 mm.

We can supply sheet cut in strips, in different widths, according to your requirements.

MANUFACTURING TOLERANCES

Thickness (mm)	Width (mm)	Length (m)
0,7 ± 0,2	± 2%	20,0 ± 5%
1,0 ± 0,2	± 2%	20,0 ± 5%
1,5 ± 0,2	± 2%	20,0 ± 5%
2,0 ± 0,3	± 2%	20,0 ± 5%
3,0 ± 0,3	± 2%	10,0 ± 5%
4,0 ± 0,4	± 2%	10,0 ± 5%
5,0 ± 0,4	± 2%	10,0 ± 5%
5,0 ± 0,5	± 2%	10,0 ± 5%
8,0 ± 0,7	± 2%	10,0 ± 5%

Thickness (mm)	Width (mm)	Length (m)
10,0 ± 1,0	± 2%	10,0 ± 5%
12,0 ± 1,0	± 2%	5,0 ± 5%
15,0 ± 1,5	± 2%	5,0 ± 5%
20,0 ± 1,5	± 2%	5,0 ± 5%
25,0 ± 2,0	± 2%	5,0 ± 5%
30,0 ± 2,5	± 2%	5,0 ± 5%
35,0 ± 3,0	± 2%	5,0 ± 5%
40,0 ± 3,5	± 2%	5,0 ± 5%
>40,0 ± 10%	± 2%	2,2 ± 5%

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STORAGE OF THE PRODUCTS

Storage conditions should comply with DIN 7716 standards, whereby the products must be stored in a cool place (temperature of between 10° C / 20° C), dry, sheltered from the sun, free from ozone, etc.

Contact with hydrocarbons or solvents should be avoided.



The information provided in this catalogue is the result of many years of experience and trials. It should be considered as being of a general nature.

We can provide different categories of official certificates if required by the customer.

We guarantee the quality of our products based on our "General conditions of sale".

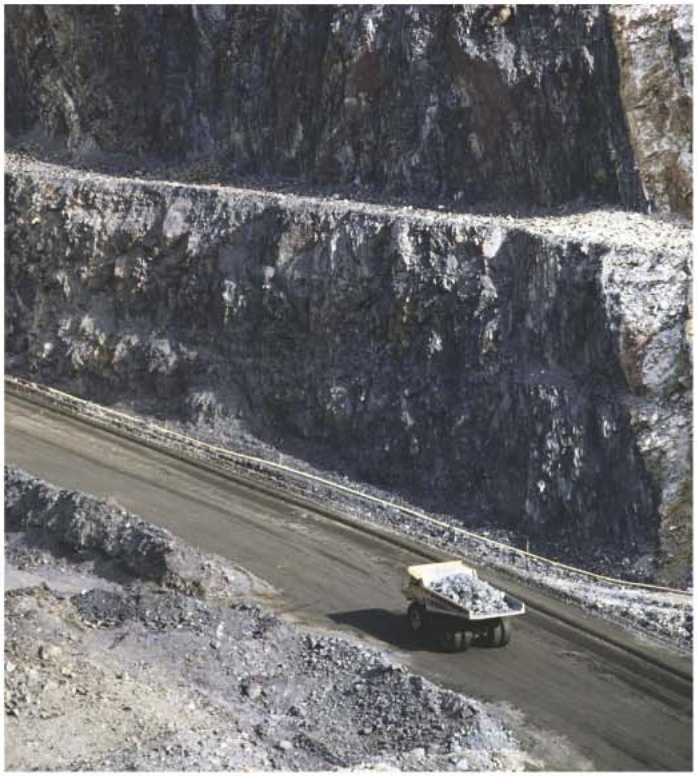
Reference values shown in this catalogue can be modified in any of its sections, since the data given are

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SBR or STYRENE-BUTADIENE RUBBER



This is a Styrene and Butadiene copolymer

More than half of the synthetic rubber produced in the world is SBR.

It is synthesised from raw materials derived from oil.

SBR contains approximately 23% of styrene. Any increase in this content leads to the deterioration of its properties of elasticity and resistance to low temperatures while at the same time increasing

Ref	Colours	Specific Gravity g/cm³	Hardness Sh.A	Tens. Stren. M Pa	Elong. %	Tear Stren. N/mm	Abras. Resist. mm³		Compr. Set		
							5N	10N	C	h	%
WEAR RESISTANT											
I644	Black	1,13	60	15	400	45		120	70	22	35
COMMERCIAL											
Z500	Black	1,18	50	8,5	400	30	125		70	22	40
Z600	Black	1,49	65	4	200	12		480	70	22	43
Z800	Black	1,44	80	4	200	15		390	70	22	42
Z900	Black	1,44	90	4	150	15		390	70	22	50

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PROPERTIES

- It requires reinforcing fillers to attain good mechanical properties, and can achieve higher abrasion resistance than Natural Rubber.
- Similar to Natural Rubber, but with better ageing and temperature resistance.
- Lower resilience compared to Natural Rubber.
- Moderate tearing, ozone and weather resistance.
- Temperature range: – 50° C to 110° C.

CHEMICAL RESISTANCE

- Good resistance to inorganic chemical products, not so to oxidizing acids.
- Limited resistance to mineral acids, and unsuitable for organic liquids in general.

SBR RUBBER									
Thermal Ageing				Chemical Resistance					Working Temp. °C
Cond.	Inc. in Hard Sh.A.	Inc. in Tens.%	Inc. in Elong.%	Ozone	Acid. & Basses conc.	Acid. & Basses dil.	Hydroc.	Solvents	
70C 70h.	5	-15	-40	◆	◆	●	▲	▲	-40/110
SBR RUBBER									
70C 70h.	8	-20	-35	◆	◆	●	▲	▲	-40/70
70C 70h.	10	-20	-40	◆	▲	◆	▲	▲	-25/70
70C 70h.	5	-15	-25	▲	▲	◆	▲	▲	-20/70
70C 70h.	5	-15	-25	▲	▲	◆	▲	▲	-20/70

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NR or NATURAL RUBBER



This is CIS-Polyisoprene.

Natural rubber is obtained from the rubber tree. Of the many existing species, only "Hevea Brasiliensis", which originated in the Amazon region, is commercially exploited.
Due to its natural origin it is not a homogenous product, but even so it is classified in different grades according to visual and analytical evaluation criteria.

Ref	Colours	Specific Gravity g/cm³	Hardness Sh.A	Tens. Stren. M Pa	Elong. %	Tear Stren. N/mm	Abras. Resist. mm³		Compr. Set		
							5N	10N	C	h	%
NATURAL											
R395	Black	1,00	35	20	625	25	150		70	22	30
R353	Black	1,00	38	20	650	20	20		70	22	25
R431	Black	1,03	45	16	600	27	90		70	22	35
R698	Black	1,21	60	15	400	40		130	70	22	35
R650	Black	1,12	62	18	400	50		90	70	22	30
R721	Black	1,16	70	18	350	45		110	70	22	35
R847	Black	1,15	80	15	240	30		120	70	22	40
R940	Black	1,16	90	13,5	220	29		120	70	22	50
R399	Natural	0,95	35	20	600	30	100		70	22	30
R499	Natural	1,00	43	20	650	30	80		70	22	30
R490	Natural	1,05	45	16	600	25	83		70	22	30
R397	Red	0,95	35	24	700	30	60		70	22	30
R504	Red	1,01	40	20	650	30	80		70	22	30
R492	Red	1,05	45	16	600	25	83		70	22	30
R320	White	0,95	40	19	600	32	110		70	22	25
R503	White	1,04	40	20	650	30	80		70	22	30
R642	White	1,30	65	10	600	26		200	70	22	35
R742	White	1,30	75	10	300	25		200	70	22	35
R396	Yellow	0,97	35	24	700	30	60		70	22	30
R510	Yellow	1,01	40	20	650	30	80		70	22	30
R491	Yellow	1,05	45	16	600	25	83		70	22	30
R398	Green	0,95	35	24	700	30	60		70	22	30
R506	Green	1,01	40	20	650	30	80		70	22	30
R493	Green	1,05	45	16	600	25	83		70	22	30
R570	Green	1,20	55	13	450	30	170		70	22	40
COMMERCIAL											
R439	Black	1,18	50	8,5	400	30	125		70	22	40
R608	Black	1,49	65	4	200	12		480	70	22	43
R449	Red	1,28	50	10	500	15	250		70	22	40
R660	Red	1,61	68	5	220	12		490	70	22	55
R448	White	1,31	50	10	500	15	250		70	22	40
R661	White	1,61	68	5	220	12		490	70	22	55
R572	Yellow	1,26	45	13	500	20	225		70	22	40

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PROPERTIES

- Excellent mechanical properties, such as tensile strength, elasticity and tear resistance.
- Wide range of hardnesses, from 35° to 90° Shore A.
- High resilience, excellent dynamic properties and low compression set.
- Excellent electrical properties.
- Sensitive to ozone. Weather resistance can be improved adding antiozonants combined with waxes.
- Temperature range: – 50° C to 90° C.

CHEMICAL RESISTANCE

- Good resistance to acids, bases and salts.
- It should not be used in contact with oils, greases or hydrocarbons.

RUBBER

Thermal Ageing				Chemical Resistance					Working Temp. °C
Cond.	Inc. in Hard Sh.A.	Inc. in Tens.%	Inc. in Elong.%	Ozone	Acid. & Basses conc.	Acid. & Basses dil.	Hydroc.	Solvents	
70C 168h.		-30	-50	▲	◆	●	▲	▲	-40/80
70C 168h.	-5	-15	-25	●	◆	■	▲	▲	-50/85
70C 70h.	5	-15	-25	●	◆	■	▲	▲	-30/90
70C 70h.	5	-15	-25	■	◆	●	▲	▲	-40/85
70C 70h.	5	-15	-25	●	●	■	▲	▲	-50/85
70C 70h.	5	-15	-25	■	●	■	▲	▲	-50/90
70C 168h.	5	-15	-25	■	◆	●	▲	▲	-40/80
70C 70h.	5	-15	-25	◆	◆	●	▲	▲	-30/80
70C 70h.	5	-15	-25	▲	◆	●	▲	▲	-40/80
70C 70h.	5	-15	-25	◆	●	■	▲	▲	-40/80
70C 70h.	5	-15	-25	◆	●	■	▲	▲	-40/85
70C 70h.	5	-15	-25	▲	◆	●	▲	▲	-40/80
70C 70h.	5	-15	-25	◆	●	■	▲	▲	-40/80
70C 70h.	5	-15	-25	◆	●	■	▲	▲	-40/85
70C 168h.	5	-20	-50	▲	◆	●	▲	▲	-40/80
70C 70h.	5	-15	-25	◆	●	■	▲	▲	-40/80
70C 70h.	5	-15	-25	◆	◆	●	▲	▲	-45/80
70C 70h.	5	-15	-25	▲	◆	●	▲	▲	-45/80
70C 70h.	5	-15	-25	▲	◆	●	▲	▲	-40/80
70C 70h.	5	-15	-25	◆	●	■	▲	▲	-40/80
70C 70h.	5	-15	-25	◆	●	■	▲	▲	-40/85
70C 70h.	5	-15	-25	▲	◆	●	▲	▲	-40/80
70C 70h.	5	-15	-25	◆	●	■	▲	▲	-40/80
70C 70h.	5	-15	-25	◆	●	■	▲	▲	-40/85
70C 70h.	5	-15	-25	▲	◆	●	▲	▲	-40/80

NATURAL RUBBER

70C 70h.	8	-20	-35	◆	◆	●	▲	▲	-40/70
70C 70h.	10	-20	-40	◆	▲	◆	▲	▲	-25/70
70C 70h.	8	-20	-35	◆	◆	●	▲	▲	-40/80
70C 70h.	5	-15	-25	▲	▲	◆	▲	▲	-25/70
70C 70h.	8	-20	-35	◆	◆	●	▲	▲	-40/80
70C 70h.	5	-15	-25	●	●	■	▲	▲	-25/70
70C 70h.	5	-15	-25	◆	◆	●	▲	▲	-40/80

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CR or CHLOROPRENE RUBBER (NEOPRENE®)



This is a Chloro-butadiene homopolymer, or Chloroprene.

It offers the most balanced set of desirable properties.

The chlorine atom increases the level of resistance to oils, placing it between Natural Rubber and Nitrile Rubber.

It is suitable for many applications.

CHLOROPRENE										
Ref	Colours	Specific Gravity g/cm³	Hardness Sh.A.	Tens. Stren. M Pa	Elong. %	Tear Stren. N/mm	Abras. Resist. mm³ 5N	Compr. Set		
								C	h	%
C323	Black	1,26	40	6,5	350	20		70	22	40
C332	Black	1,37	50	8	300	15		70	22	35
C627	Black	1,29	60	10	250	20		70	22	20
C739	Black	1,43	70	10	250	20		70	22	20
C738	Black	1,47	70	10	250	20		70	22	20
C856	Black	1,40	80	9	150	20		70	22	25
C644	Grey	1,60	70	7	300	30	175	70	22	40
C433	White	1,38	50	6,5	300	15		70	22	40
C653	White	1,48	60	7	350	15		70	22	40
COMERCIAL										
C400	Black	1,33	40	4	450	11		70	22	40
C500	Black	1,35	50	4,5	400	13		70	22	40
C800	Black	1,45	60	6	300	15		70	22	35
C722	Black	1,57	65	5	300			70	22	50
C801	Black	1,42	70	6,5	250	17		70	22	35
C803	Black	1,38	80	6	200	16		70	22	50

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PROPERTIES

- Excellent abrasion resistance and superior mechanical properties.
- Inferior resilience than Natural Rubber in low hardnesses, but higher from hardnesses of 60° Shore A upwards.
- It presents good temperature and ozone resistance.
- Flame retardant.
- Good adhesion to metal.
- Temperature range: – 25° C to 125° C.

CHEMICAL RESISTANCE

- Resistant to inorganic chemical products except oxidizing acids and halogens.
- It does not resist the majority of organic compounds, with the exception of alcohols.
- Moderate resistance to aliphatic hydrocarbons (paraffins, vegetable oils, animal fats, etc.).

RUBBER												
Thermal Ageing				Volume Swelling			Chemical Resistance					Working Temp. °C
Cond.	Inc.in Hard Sh.A.	Inc.in Tens. %	Inc. in Elong. %	Cond.	ASTM 5 Inc.Vol. Oil %	IRM 903 Inc.Vol. Oil %	Ozon.	Acid & Basses concent	Acid & Basses dil.	Hydroc.	Solvents.	
70C 70h.	5	-15	-25	100C 70h.		100	■	◆	●	◆	▲	-40/110
70C 70h.	5	-15	-25	70C 70h.	10	55	●	◆	●	◆	●	-30/120
70C 70h.	5	-15	-25	70C 70h.	10	55	■	◆	●	◆	◆	-30/120
70C 70h.	5	-15	-25	70C 70h.	10	55	●	◆	●	◆	◆	-30/120
70C 70h.	5	-15	-25	70C 70h.	10	55	■	◆	●	◆	◆	-30/120
70C 70h.	5	-15	-40	70C 70h.	5	45	●	●	●	◆	◆	-30/120
70C 70h.	5	-15	-40	70C 70h.	5	45	●	●	■	◆	◆	-30/120
70C 70h.	5	-15	-40	70C 70h.	10	55	●	●	■	◆	◆	-30/100
70C 70h.	5	-15	-40				◆	●	■	◆	◆	-30/100
CHLOROPRENE RUBBER												
70C 70h.	5	-15	-40	70C 70h.	26	80	◆	▲	◆	▲	▲	-30/90
70C 70h.	5	-15	-40	70C 70h.	26	80	◆	▲	◆	▲	▲	-30/100
70C 70h.	5	-15	-40	70C 70h.	15	63	◆	▲	◆	▲	▲	-30/90
70C 70h.	5	-15	-35				■	◆	■	▲	▲	-20/100
70C 70h.	5	-15	-40	70C 70h.	15	63	◆	▲	◆	▲	▲	-20/100
70C 70h.	5	-15	-40	70C 70h.	18	76	◆	▲	◆	▲	▲	-20/100

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NBR or NITRILE RUBBER



These are copolymers of butadiene and acrylonitrile and are usually known as NITRILE RUBBERS

Depending on the acrylonitrile content (ACN) they can be classified as: Low ACN (18-24%), Medium ACN (34%) and High ACN (50%) content.

By increasing the ACN content:

- Resistance to oils, fuel, etc. increases.
- Tensile strength, resistance to abrasion, hardness, temperature resistance and impermeability are improved.
- Resilience and flexibility at low temperature are reduced.

NITRILE									
Ref	Colours	Specific Gravity g/cm³	Dureza Sh.A	Tens. Stren. M Pa	Elong. %	Tear Stren. N/mm	Compr. Set		
							C	h	%
B419	Black	1,20	40	6,5	400	15	70	22	35
B429	Black	1,20	50	8,5	425	20	70	22	35
B569	Black	1,28	60	10	350	25	70	22	30
B636	Black	1,29	60	10	350	25	70	22	32
B747	Black	1,25	70	13	225	30	70	22	20
B739	Black	1,32	70	12	300	30	70	22	35
B936	Black	1,25	80	12	200	40	70	22	40
B939	Black	1,24	90	13	200	40	70	22	50
B573	White	1,29	50	6,5	450	18	70	22	40
B570	White	1,40	65	8	400	20	70	22	40
B574	White	1,44	65	10	400	20	70	22	30
B870	White	1,36	80	10	250	30	70	22	50
HIGH SPECIFICATION									
B568	Black	1,25	60	12	350	27	70	22	25
B644	Black	1,21	65	12	250	25	100	22	15
B668	Black	1,25	70	13	250	30	70	22	20
COMMERCIAL									
B500	Black	1,37	50	4	350	15	70	22	50
B600	Black	1,44	60	4	300	15	70	22	45
B700	Black	1,47	70	4	250	15	70	22	45
B800	Black	1,45	80	4,5	240	15	70	22	45

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PROPERTIES

- Resistance to oils, and can be formulated for applications at relatively high temperatures.
- Good mechanical properties, such as traction, compression and flexion.
- Impermeable to gases.
- Ageing is moderate.
- Good adhesion to metal.
- Moderate resistance to low temperatures, allowing it to reach temperatures as low as – 40° C thanks to the use of adequate plastifiers.
- Temperature range: – 30° C to 120° C.

CHEMICAL RESISTANCE

- Good resistance to most inorganic chemical products, apart from antioxidizing agents and
- chlorides.
- Limited resistance to polar liquids such as ketones, ethers, amines, etc.
  Satisfactory resistance to aliphatic hydrocarbons, but limited resistance to aromatics (Benzene,

RUBBER

Thermal Ageing				Volume Swelling			Chemical Resistance					Working Temp. °C
Cond.	Inc.in Hard Sh.A.	Inc.in Tens. %	Inc. in Elong. %	Cond.	ASTM 5 Inc.Vol. Oil %	IRM 903 Inc.Vol. Oil %	Ozon.	Acid & Basses concent	Acid & Basses dil.	Hydroc.	Solvents.	
70C 70h. 35/100	5	-15	-40	70C 70h.	10	30	◆	◆	●	●	●	-
70C 70h. 30/100	5	-15	-40	70C 70h.	10	30	◆	●	■	●	●	-
70C 70h. 30/110	5	-15	-40	70C 70h.	5	20	◆	●	■	●	●	-
70C 70h. 30/110	5	-15	-40	70C 70h.	5	20	■	●	■	■	●	-
100C 70h. 30/110	5	-15	-40	70C 70h.	5	20	◆	●	■	●	◆	-
70C 70h. 30/110	5	-15	-40	70C 70h.	5	20	◆	●	■	●	●	-
NITRILE RUBBER												
100C 70h. 25/110	5	-15	-40	100C 70h.	5	30	◆	●	■	●	●	-
NITRILE RUBBER												
70C 70h. 35/110	5	-15	-40	70C 70h.	5	25	▲	▲	●	◆	◆	-
70C 70h.	5	-15	-40	70C 70h.	5	25	▲	▲	●	◆	◆	-

■ Excelent ● Good ◆ Moderate ▲ Not recommended

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EPDM or ETHYLENE RUBBER



This is a thermopolymer of Ethylene-Propylene-Diene (EPDM).

The copolymers of Ethylene and Propylene (EPM) can only be vulcanized by peroxides or radiation, whereas by adding Diene (EPDM) it is possible to achieve conventional vulcanization with sulphur, thereby increasing their resistance to tearing.

EPDM

Ref	Colours	Specific Gravity g/cm³	Hardness Sh.A	Tens. Stren. M Pa	Elong. %	Tear Stren. N/mm	Compr. Set		
							C	h	%
E350	Black	1,04	30	8	640		70	22	25
E450	Black	1,07	40	9	500	19	70	22	40
E550	Black	1,17	50	9	450	23	70	22	35
E602	Black	1,30	60	6,9	500	25	70	22	20
E646	Black	1,16	65	11	250	27	100	22	25
E647	Black	1,16	65	10	300	27	70	22	25
E715	Black	1,16	70	10	250	30	70	22	20
E701	Black	1,31	70	7	300	20	70	22	30
E850	Black	1,16	80	10	225	30	70	22	40
E566	Grey	1,23	60	8	350	18	70	22	40
E666	Green	1,32	70	9	300	23	70	22	40
E469	White	1,26	50	9	400	17	70	22	30
E569	White	1,25	60	8	350	18	70	22	40
E669	White	1,32	70	9	300	23	70	22	40
E849	White	1,38	80	5	200	20	70	22	60
									EPDM RUBBER
E645	Black	1,18	70	11	250	27	70	22	20
E845	Black	1,17	80	10	250	30	70	22	30
E935	Black	1,18	85	10	200	30	70	22	48

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PROPERTIES

- Excellent resistance to ageing, ozone, ultraviolet light, and practically unalterable by
- weather.
- Excellent electrical properties and radiation stability.
- Moderate adhesion to metal.

Temperature range: – 45° C to 120° C. May be formulated for continuous services at 140° C.

CHEMICAL RESISTANCE

- High resistance to many corrosive chemical products.
- Does not resist against acids and is attacked by aliphatic and aromatic hydrocarbons, as well as by halogenated solvents.
- Resistant to most inorganic chemical products.
- Limited resistance to oxidizing acids.
- Highly resistant to mineral acids, detergents, phosphoric ethers, ketones, alcohols as well as to low molecular weight glycols.
- Good performance in the presence of hot water or high pressurised steam.

RUBBER

Thermal Ageing				Resist. Ozone				Chemical Resistance					Working Temp. °C
Cond.	Inc.in Hard Sh.A.	Inc.in Tens. %	Inc. in Elong. %	C	h	Ozone	%	Ozone	Acid & Basses concent	Acid & Basses dil.	Hydroc.	Solvent.	
70C 70h.	10	-20	-50	38	48	200	20	■	▲	●	▲	◆	-40/110
70C 70h.	10	-15	-40	38	48	200	20	■	●	■	▲	◆	-40/110
70C 70h.	5	-15	-40	38	48	200	20	■	●	■	▲	◆	-40/115
100C 72h.	5	-10	-30	30	96	200	20	■	●	■	▲	◆	-40/120
100C 70h.	5	-15	-25	38	48	200	20	■	●	■	▲	◆	-40/140
70C 70h.	5	-15	-40	38	48	200	20	■	●	■	▲	◆	-40/120
70C 168h.	10	-15	-25	38	48	200	20	■	●	■	▲	◆	-40/120
70C 70h.	5	-15	-40	38	48	200	20	■	●	■	▲	◆	-40/120
70C 70h.	5	-15	-40	38	48	200	20	■	●	■	▲	◆	-35/120
70C 70h.	5	-15	-40	38	48	200	20	■	●	■	▲	◆	-40/115
70C 70h.	5	-15	-40	38	48	200	20	■	●	■	▲	◆	-40/115
70C 70h.	7	-15	-40	38	48	200	20	■	●	■	▲	◆	-40/110
70C 70h.	5	-15	-40	38	48	200	20	■	●	■	▲	◆	-40/115
70C 70h.	5	-15	-40	38	48	200	20	■	●	■	▲	◆	-40/115
70C 70h.	5	-15	-30	38	48	200	20	■	●	■	▲	◆	-30/110
DRINKING WATER													
70C 70h.	5	-15	-40	38	48	200	20	■	●	■	▲	◆	-40/120
70C 70h.	5	-5	-15	38	48	200	20	■	●	■	▲	◆	-40/120
70C 70h.	5	-15	-40	38	48	200	20	■	●	■	▲	◆	-35/120

■ Excelent ● Good ◆ Moderate ▲ Not recommended

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IIR and XIIR or BUTYL RUBBER



This is a copolymer of Isobutilene with a small quantity of Isoprene.

BUTYL

Ref	Colours	Specific Gravity g/cm³	Hardness Sh.A	Tens. Stren. M Pa	Elong. %	Tear Stren. N/mm	Compr. Set		
							C	h	%
T641	Black	1,20	60	9	500	40	70	22	25
T620	Black	1,27	60	8	400	25	70	22	25
T621	Black	1,18	65	9	400	30	70	22	25

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PROPERTIES

- High tensile strength when reinforcing fillers are used.
- Low air permeability.
- Excellent resistance to oxidation and ozone.
- Excellent resistance to heat with an adequate formulation.
- Excellent impermeability to gases.
- Very low resilience, which gives it good shock absorption capacity.
- Moderate abrasion resistance and compression set values.
- Temperature range: – 45° C to 130° C, may be higher in certain formulae.

CHEMICAL RESISTANCE

- Resistant to most inorganic substances.
- Limited resistance to oxidizing acids.
- High resistance to mineral acids and alkalis.
- Not suitable for oils and hydrocarbonated solvents.
- Resistant to ketones and low molecular weight alcohols.

RUBBER

Thermal Ageing				Chemical Resistance					Working Temp. °C
Cond.	Inc. in Hard Sh.A.	Inc. in Tens.%	Inc. in Elong.%	Ozone	Acid. & Basses conc.	Acid. & Basses dil.	Hydroc.	Solvents	
70C 168h.	5	-15	-40	■	●	■	▲	◆	-40/130
70C 168h.	5	-15	-40	■	●	■	▲	◆	-40/130
70C 168h.	5	-15	-40	■	●	■	▲	◆	-40/130

■ Excelent ● Good ◆ Moderate ▲ Not recommended

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CSM or HYPALON® RUBBER



This is CSM or Chlorosulphonated Polyethylene.

HYPALON®

Ref	Colours	Specific Gravity g/cm³	Hardness Sh.A	Tens. Stren. M Pa	Elong. %	Tear Stren. N/mm	Compr. Set		
							C	h	%
H630	Black	1,30	60	10	350	23	70	22	40
H730	Black	1,33	70	10	225	23	70	22	40
H511	Black	1,16	50	7	400	17	70	22	40
H611	Black	1,32	60	8	350	20	70	22	40
H711	Black	1,36	70	8	225	20	70	22	40
H609	Grey	1,49	70	7	250	20	70	22	40
H606	White	1,57	70	7	250	20	70	22	40

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PROPERTIES

- Excellent oxidation, weather and ozone resistance.
- Excellent resistance to hydrocarbonated solvents.
- Flame resistant.
- Moderate adhesion to metal.
- Temperature range: –35° C to 140° C.

CHEMICAL RESISTANCE

- Resistant to most inorganic chemical products, except chlorine, concentrated acids and oxidants.
- Moderate resistance to aliphatic and aromatic hydrocarbons.
- Resistant to alcohols.

HYPALON® is a registered trademark of Dupont Dow Elastomers

RUBBER

Thermal Ageing				Volume Swelling		Chemical Resistance					Working Temp. °C
Cond.	Inc.in Hard Sh.A.	Inc.in Tens. %	Inc. in Elong. %	Cond.	IRM 903 Inc.Vol.Oil %	Ozone	Acid. & Basses concent	Acid. & Basses dil.	Hydroc.	Solvents	
100C 70h.	5	-15	-40	70C 70h.	40	■	●	■	●	●	-35/125
100C 70h.	5	-15	-40	70C 70h.	40	■	●	■	●	●	-35/125
70C 168h.	10	-15	-40			■	●	■	●	●	-35/110
70C 168h.	5	-15	-40			■	●	■	▲	◆	-35/110
70C 168h.	5	-15	-40			■	●	■	▲	◆	-35/110
70C 168h.	5	-15	-40			■	●	■	▲	◆	-35/110
70C 168h.	5	-15	-40			■	●	■	▲	◆	-35/110

■ Excelent ● Good ◆ Moderate ▲ Not recommended

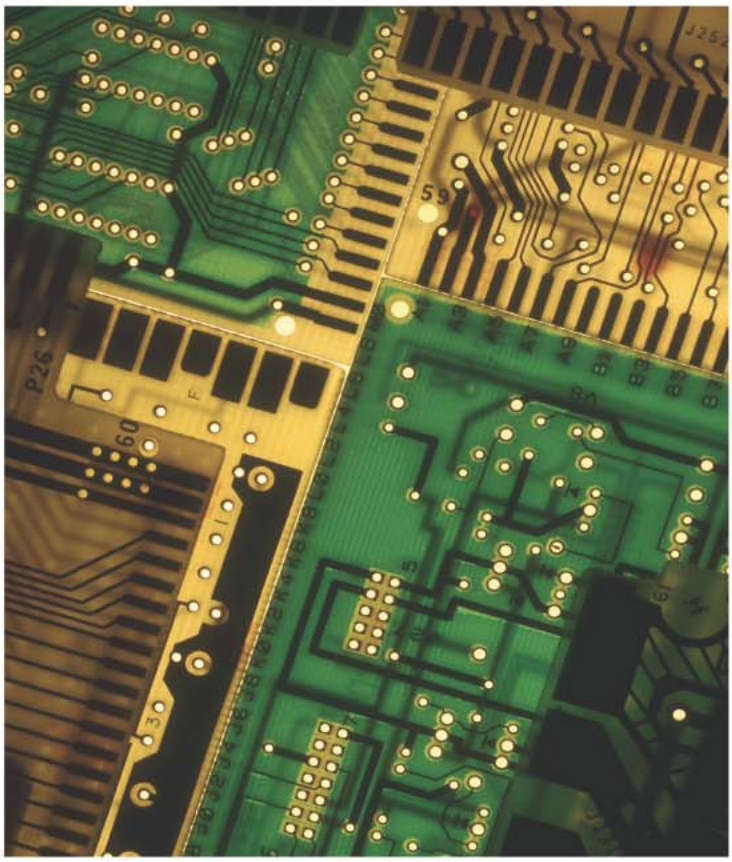
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PMQ, PVMQ, VMQ or SILICONE RUBBER



This is a polysiloxane chain.

Unlike the rest of synthetic rubbers, its molecular chain does not contain carbon, but consists of silicon and oxygen atoms.

SILICONE

Ref	Colours	Specific Gravity g/cm³	Hardness Sh.A	Tens. Stren. M Pa	Elong. %	Tear Stren. N/mm	Compr. Set		
							C	h	%
S550	Translucent	1,12	50	7	350	17	70	22	40
S650	Translucent	1,16	60	8	350	20	70	22	40
S750	Translucent	1,19	70	8	300	20	70	22	40
S561	White	1,15	50	6,5	300	17	70	22	45
S661	White	1,30	60	7,5	300	17	70	22	45
S761	White	1,33	70	7,5	300	20	70	22	45
S562	Red	1,15	50	6,5	300	17	70	22	45
S662	Red	1,30	60	7,5	300	17	70	22	45
S762	Red	1,33	70	7,5	300	20	70	22	45

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PROPERTIES

- Excellent temperature resistance (200° C to 220° C) in dry environments. In contact with high pressurised steam (130° C / 140° C) or in case of ageing in closed systems without the presence of oxygen, degradation by hydrolysis may occur.
- Absolutely unalterable by ozone, weather and ultraviolet radiation.
- Good electrical insulator.
- Self-extinguishable. In case of complete combustion by prolonged contact with a flame, the residue (silica) is an excellent electrical insulator.
- Physiologically inert, suitable for medical applications.
- Temperature range: – 70° C to 220° C.

CHEMICAL RESISTANCE

- Comparable to Chloroprene Rubber as regards to its resistance to oils and hydrocarbons.
- Not suitable for acids and bases, chlorinated hydrocarbons, esters, acetones, etc.
- Low mechanical properties (tensile strength, elongation and tear strength). However, in the heat ageing test it is clearly superior to other polymers, since it retains these properties better.

RUBBER

Thermal Ageing				Chemical Resistance					Working Temp. °C
Cond.	Inc. in Hard Sh.A.	Inc. in Tens.%	Inc. in Elong.%	Ozone	Acid. & Basses conc.	Acid. & Basses dil.	Hydroc.	Solvents	
180C 70h.	5	-15	-25	■	◆	●	◆	◆	-70/200
180C 70h.	5	-15	-25	■	◆	●	◆	◆	-70/200
180C 70h.	5	-15	-25	■	◆	●	◆	◆	-70/200
180C 70h.	5	-15	-25	■	◆	●	◆	◆	-70/200
180C 70h.	5	-15	-25	■	◆	●	◆	◆	-70/200
180C 70h.	5	-15	-25	■	◆	●	◆	◆	-70/200
180C 70h.	5	-15	-25	■	◆	●	◆	◆	-70/200
180C 70h.	5	-15	-25	■	◆	●	◆	◆	-70/200
180C 70h.	5	-15	-25	■	◆	●	◆	◆	-70/200

■ Excelent ● Good ◆ Moderate ▲ Not recommended

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FKM or FLUORELASTOMER RUBBER – VITON®



This is a Fluorelastomer rubber or FKM.

It is known as fluorelastomer rubber.

Its chemical resistance, and its resistance to low and high temperatures are directly proportional to its fluorine content.

Ref	Colours	Specific Gravity g/cm³	Hardness Sh.A	Tens. Stren. M Pa	Elong. %	Compr. Set		
						C	h	%
FKM								
V037	Black	2,03	70	7	165	175	22	50
V033	Black	1,98	72	5	165	175	22	55
V036	Black	2,24	80	5	150	175	22	45
VITON®								
V725	Black	1,80	70	8,5	200	180	70	40
V737	Black	2,03	70	7	165	175	22	50
V733	Black	1,98	72	5	165	175	22	55
V736	Black	2,24	80	5	150	175	22	55

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PROPERTIES

- Extraordinary high temperature resistance. Continuously up to 250° C and intermittently up to 300° C.
- Extraordinary chemical resistance.
- Self-extinguishable.
- Excellent ozone and weather resistance.
- Low deformation on compresion at high temperature.
- Satisfactory resistance to low temperatures: between – 30° C and – 50° C.

CHEMICAL RESISTANCE

- Of all synthetic rubbers, it is the most resistant to hydrocarbons, either aliphatic, aromatic or chlorinated.
- It has strong resistance to water and steam up to 150° C.
- Excellent resistance to acids and alkalis, including oxidants.
- Low resistance to esters and ketones.

VITON® is a registered trademark of Dupont Dow Elastomers

RUBBER							
Volume Swelling		Chemical Resistance					Working Temp. °C
Cond.	IRM 903 Inc.Vol.Oil %	Ozone	Acid. & Basses conc.	Acid. & Basses dil.	Hydroc.	Solvents	
150C 70h.	4	■	■	■	●	●	-30/250
150C 70h.	3	■	■	■	●	●	-10/250
150C 70h.	3	■	■	■	●	●	-30/250
RUBBER							
150C 70h.	4	■	■	■	●	●	-30/250
150C 70h.	4	■	■	■	●	●	-30/250
150C 70h.	3	■	■	■	●	●	-10/250
150C 70h.	3	■	■	■	●	●	-30/250

■ Excelent ● Good ◆ Moderate ▲ Not recommended

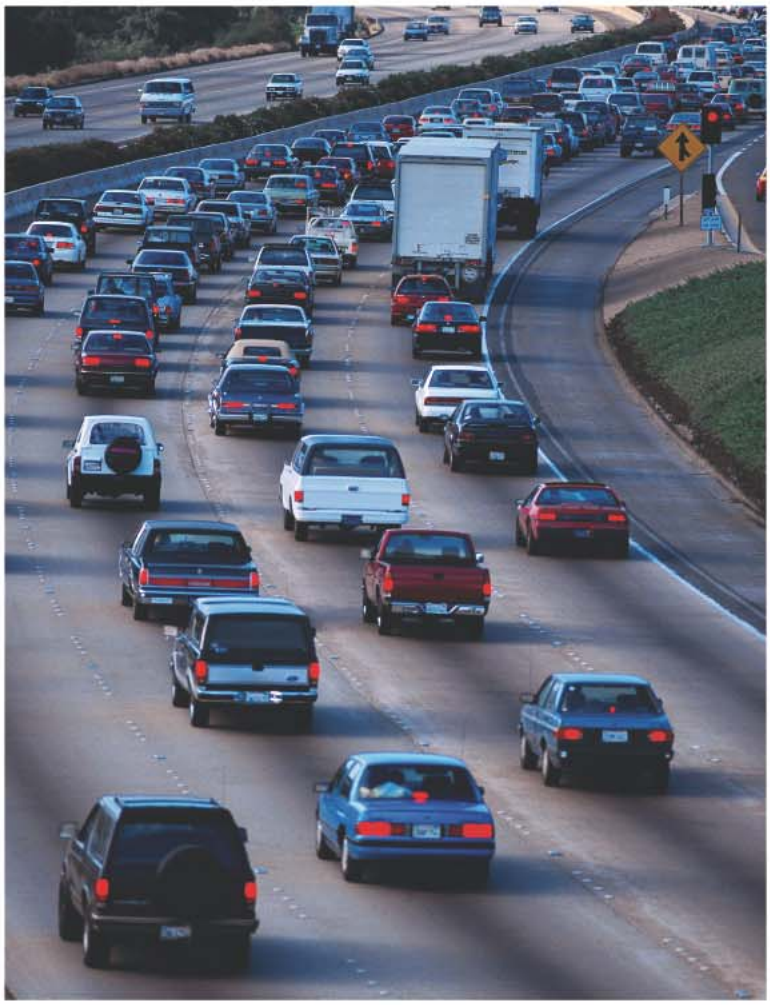
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CO, ECO, GECO/ETER or EPICHLOROHYDRIN RUBBER



There are three types of epichlorohydrin:

1. Homopolymers of epichlorohydrin (CO).

2. Copolymers of epichlorohydrin and athylene oxi (ECO).

3. Terpolymers of epichlorohydrin, ethylene oxide and unsaturated monomer make it possible to vulcanise using sulphur (GECO).

EPICHLOROYDRIN

Ref	Colours	Specific Gravity g/cm³	Hardness Sh.A	Tens. Stren. M Pa	Elong. %	Compr. Set		
						C	h	%
P600	Black	1,39	60	10,5	300	100	22	25

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PROPERTIES

- Excellent ozone and weather resistance as saturated polymers
- COs withstand continuous service temperatures of up to 150° C and are fragile from – 23° C.
- ECOS and ETHERS can support continuous service temperatures of up to 135° C, and maintain their flexibility above – 40° C.
- Very low permeability to gases, even exceeding that of butyl rubber.
- Fire resistant.
- Excellent elastic properties.

CHEMICAL RESISTANCE

- Good resistance to hydrocarbons.
- Their moderate resistance to oils places them between medium and high content Nitrile Rubbers.
- Higher resistance to aromatic hydrocarbons than that of high content Nitrile Rubbers.
- Resistant to alcohols, alkalis and diluted mineral acids.
- Limited resistance to most organic chemical products, oxidizing agents and chlorine.

RUBBER

Thermal Ageing				Volume Swelling			Chemical Resistance					Working Temp. °C
Cond.	Inc.in Hard Sh.A.	Inc.in Tens. %	Inc. in Elong. %	Cond.	ASTM 5 Inc.Vol. Oil%	IRM 903 Inc.Vol. Oil%	Ozone	Acid. & Bass. concent	Acid. & Bass. dil.	Hydroc.	Solvents	
125C 70h.	5	-20	-30	125C 70h.	5	25	■	●	■	●	●	-35/135

■ Excelent ● Good ◆ Moderate ▲ Not recommended

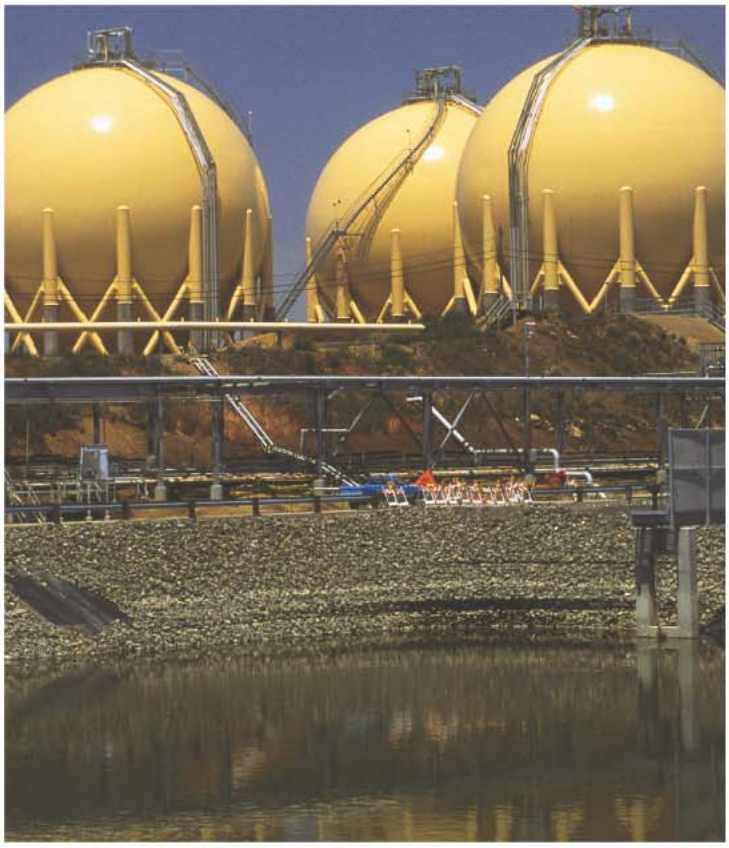
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VAMAC® OR ETHYLENE-ACRYLATE RUBBER



These are ETHYLENE-ACRYLATE rubbers (AEM).

They are similar to acrylic rubbers (ACM), but replacing the acrylate part by ethylene, thereby obtaining better behaviour at low temperatures.

This change reduces oil resistance, making it equal to that of Chloroprene Rubber, but offering better resistance to ozone, temperature, water and

VAMAC®

Ref	Colours	Specific Gravity g/cm³	Hardness Sh.A	Tens. Stren. M Pa	Elong. %	Compr. Set		
						C	h	%
U650	Black	1,26	65	10	250	150	70	50

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PROPERTIES

- High weather and ozone resistance.
- Medium mechanical properties.
- Low remaining deformation when subjeted to high temperature compression.
- Excellent electrical insulation.
- Temperature range: – 60° C to 175° C continuous and 200° C intermittent.

CHEMICAL RESISTANCE

- Resistant to oils, natural fats and some salts.
- Not resistant to aliphatic, aromatic and chlorinated hydrocarbons.
- Low resistance to acids and alkalis.

VAMAC® is a registered trademark of Dupont Dow Elastomers

RUBBER

Thermal Ageing				Volume Swelling			Chemical Resistance					Working Temp. °C
Cond.	Inc.in Hard Sh.A.	Inc.in Tens. %	Inc. in Elong. %	Cond.	ASTM 5 Inc.Vol. Oil%	IRM 903 Inc.Vol. Oil%	Ozone	Acid. & Bass. concent	Acid. & Bass. dil.	Hydroc.	Solvents	
150C 70h.	10	-15	-30	150C 70h.	6	60	■	●	■	●	◆	-40/175

■ Excelent ● Good ◆ Moderate ▲ Not recommended

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