



**TOVO Gomma S.p.A.**



# COMPANY

## Presentation

**Tovo Gomma S.p.A.** has been in the rubber industry since 1973, specialising in compounds, rubber sheets and foam products.

Production efficiency is assured by high-productivity plants, while specialist staff, ensure high quality.

The fully computerised system ensures reliable, rapid data traceability.

**Tovo Gomma's** top priority is to satisfy the market with excellent products and customised service.

Skilled management, technology, quality, R&D laboratories, marketing and sales services, with flexible production and a complete range of products for different sectors, combine to make **Tovo Gomma** your ideal partner.



### Plant 1

**Tovo Gomma S.p.a.** has obtained UNI EN ISO 9001:2000 (ISO 9001:2000) quality certification.

### Plant 2





## 2.1 COMPOUNDS

### Technology

The **Tovo Gomma** Compounds Division is specialised in the design and production of black and coloured compounds in NBR – SBR – EPM – EPDM – CR – NR – IR – IIR – B/CIIR - CSM - BR formulations; other polymers are used on a to-order basis.

The compounds supplied to meet customers requirements are used for injection-transfer and compression moulding, extrusion, boiler vulcanisation and continuous vulcanisation with salt bath (LCM)-microwave-infrared channel-hot air.

### Systems & Uses



Black compounds are produced with a 200-litre Banbury mixer. Coloured compounds are produced with a 130-litre Banbury mixer. All systems are fully PLC-controlled and are equipped with automatic dispensers for Carbon Black, non-black fillers and plastifying additives; the other chemicals are added separately by a specially designed automatic feeding system.

The compounds are used to produce technical rubber products, gaskets, O-rings, hoses for high and medium pressure, profiles, cable, sheets, sound and vibration-absorbent waterproofing sheets, technical and sports footwear soles and other niche products. The compounds supplied belong to the automotive, chemical, electrical, extrusion, machine construction, food, fuel, building, and consumer industry.





# 2.2 COMPOUNDS

## Shapes

### FOLDERED

	MIN	MAX
WIDTH	300mm	700mm
THICKNESS	5mm	10mm



On pallets wrapped in heat-shrink film

PACKING

### FOLDERED IN STAPLED STRIPS

	MIN	MAX
WIDTH	300mm	700mm
IN STRIPS	measuring 50mm and multiples	
THICKNESS	5mm	10mm



On pallets wrapped in heat-shrink film

PACKING

### SHEETS

	MIN	MAX
WIDTH	300mm	700mm
THICKNESS	5mm	10mm
LENGTH	700mm	1200mm



On pallets wrapped in heat-shrink film

PACKING

### ROLLS

	MIN	MAX
WIDTH	300mm	700mm
THICKNESS	5mm	10mm
DIAMETER		300mm



Rolls wrapped in polythene on pallets

PACKING

### CONTINUOUS STRIPS

	MIN	MAX
WIDTH	80mm	200mm
THICKNESS	5mm	10mm



PACKING Box

### STRIP ON SPOOL INJECTION MOULDING

	MIN	MAX
WIDTH	40mm	40mm
THICKNESS	5mm	10mm
DIAMETER	500mm	600mm



Stacked horizontally with heat-shrink film on pallets

PACKING

### DRAWN AND FILTERED

	MIN	MAX
WIDTH	40mm	200mm
THICKNESS	6mm	10mm



Continuous strips in plastic crates or box or pallets wrapped in polythene

PACKING

### CALANDERED ROLLS

	MIN	MAX
WIDTH	250mm	1500mm
THICKNESS	0,5mm	10mm
SUPPORT	CARDBOARD BEAM	
REEL DIAM.		800mm

PACKAGED SMOOTH OR BLISTER POLYTHENE WITH OR WITHOUT SELF-STICK



On pallets wrapped in heat-shrink film

PACKING

### CALANDERED SHEETS

	MIN	MAX
WIDTH	250mm	1400mm
THICKNESS	1mm	10mm
LENGTH	700mm	1800mm

PREPARATION WITH POLYTHENE INTERLEAVES



On pallets wrapped in heat-shrink film

PACKING

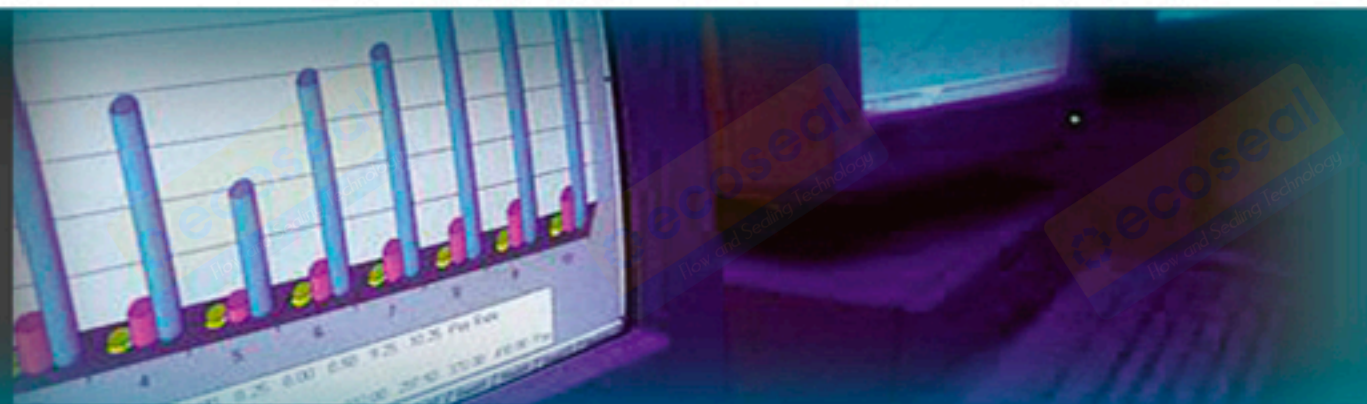
**NOTE:** All measurements indicated are approximate and subject to confirmation for each compound.



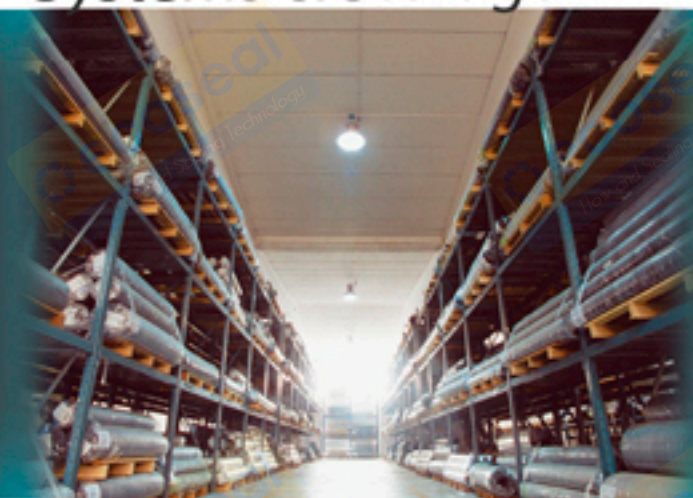
## 3.1 SHEETS

### Technology

**Tovo Gomma** is the leader on the Italian market in the sector of continuous vulcanised sheets, where it possesses significant know-how reflected in leading-edge production technology.



### Systems & Storage



**Tovo Gomma** is always on the look-out for innovative solutions to develop its technologies in the sector of sheets, where it already uses highly sophisticated roller head extrusion, continuous vulcanisation and compression moulding systems. The warehouse is continuously restocked, guaranteeing prompt delivery of the complete range of black and coloured sheets with or without textile inserts, in NBR – SBR – EPDM – NR – CR – HNBR – CSM – FKM – VMQ rubbers, in thicknesses from 0.5mm to 60 mm and widths up to 1500 mm. Special rubber sheets designed to specifications can be engineered with our customers for specific applications.

### Uses

#### Sectors for sheets applications



GASKETS



TRANSPORT



FOODS



CONSTRUCTION



AUTOMOTIVE





## 3.2 SHEETS

### General informations

#### APPLICATIONS

The various types of sheet shown in this catalogue are particularly suitable for a wide range of technical applications in industry.

#### PHYSICAL AND MECHANICAL PROPERTIES

The figures refer to the average results of statistical assessments made on laboratory samples. All the tests are carried out in TOVO GOMMA's laboratory to UNI standards. Tests to DIN, ASTM, BS and AFNOR standards can also be performed.

#### THERMAL AND CHEMICAL PROPERTIES

This catalogue shows the most common conditions of use depending on the basic elastomers, their properties and laboratory assessments made under standard conditions.

#### TEXTILE INSERTS

The sheets are made either all rubber or with nylon or polyester inserts.

#### SURFACE FINISH

The surface is usually smooth but one or both sides can be made with a canvas-type print on request.

#### SHAPES

The sheets are manufactured in rolls and mats with following dimensions and tolerances.

#### DIMENSIONS

for thicknesses up to 10 mm:  
width 1.500 mm length 10.000 mm

for thicknesses of 12 to 20 mm:  
width 1.050 mm length 10.000 mm

for thicknesses of 25 to 30 mm:  
width 1.050 mm length 5.000 mm

for thicknesses of over 25 mm:  
plate sizes 1.030 mm x 1.060 mm

#### DIMENSIONAL TOLERANCES

width		± 30 mm
length		- 0 + 500 mm
thickness	up to 1,5 mm	± 0,2 mm
	from 2,0 to 3,0 mm	± 0,3 mm
	from 4,0 to 6,0 mm	± 0,5 mm
	8,0 mm	± 0,8 mm
	from 10,0 to 15,0 mm	± 2,0 mm
	over 15,0 mm	± 2,5 mm

#### TECHNICAL BACKUP

TOVO GOMMA have their own laboratory for the research and development of various products and for designing customised products.



## 3.3 SHEETS

### Classes of product and specifications

#### INDUSTRIAL RUBBER SHEET

Styrene butadiene rubber (SBR) - black and coloured for general use. Can withstand temperatures up to 70°C.

#### ANTIABRASIVE RUBBER SHEET

Natural rubber (NR) or blend of SBR-BR - black - with special anti abrasive and good mechanical properties. Can withstand temperatures up to 75°C (NR) and 80°C (SBR).

#### PARA RUBBER SHEET

Natural rubber (NR) - semi transparent, various colours with excellent mechanical properties. Can withstand temperatures up to 70°C.

#### OIL AND FUEL RESISTANT RUBBER SHEET

Black nitrile rubber (NBR), oil and fuel resistant with good mechanical properties. Can withstand temperature up to 100°C.

#### CHLOROPRENE RUBBER SHEET

Black CR sheet, highly versatile as it is resistant to oil, atmospheric agents and flame and has good mechanical properties. Can withstand temperature up to 90°C.

#### ETHYLENE-PROPYLENE RUBBER SHEET

Ethylene-propylene rubber (EPDM) - black, excellent resistance to atmospheric agents, ozone and chemical agents in general. Good mechanical properties. Can withstand temperatures up to 120°C.

#### TOP-QUALITY RUBBER SHEET

6000 sheet made of FKM (fluorinated rubber - viton) - black, excellent resistance to heat high temperature oil, fuels and ozone. Excellent resistance to flames and chemicals. Can withstand temperatures up to 200°C.

7000 rubber sheet made of VMQ (silicone rubber) - transparent and red with excellent resistance to high and low temperatures, ozone and atmospheric agents. Can withstand temperatures from - 50°C + 180°C.

## 3.3 SHEETS

### Classes of product and specifications

#### SPECIAL RUBBER SHEET

1532 N sheet made of nitrile rubber NBR - white, suitable for use with food including contact with oily products.

APCR sheet made of natural and chloroprene rubber (NC CR) - black, for bridge bearing.

MOBIL sheet made of natural rubber (NR) - red and white for use on furniture veneering system. Excellent physical and chemical properties and stress resistance. Can withstand temperatures up to 110° C.

ISOL sheet made of styrene rubber (SBR) - grey, high electrical resistance. Good mechanical properties.

Sheet 2004 based on NBR (nitrile rubber) - black, with excellent oil resistance specific for transformer oil.

Sheet GAS based on NBR (nitrile rubber) - black, with good oil, fuel and gas resistance. Meets UN EN 549/1996 norm.

Sheet 1003 based on NR (natural rubber) for dynamic joints.

Sheet 2020 based on NBR (nitrile rubber) - black, with high mechanical characteristics and very high resistance to: mineral and animal oil.

Sheet 3300 based on chloroprene - black, with optimal characteristics of resistance to the flame and low smoke emission.

Sheet 4300 based on EPDM - black, with good fire resistance and low smoke emission.

Sheet 1509 based on NR (natural rubber) suitable for uses where softness and the highest mechanical characteristics are needed.



# 3.4 SHEETS

## General table of sheets

CLASSES	COMMERCIAL NAME	TYPE	COLOR	HARDNESS	TEST ACCORDING UNI NORMS				GENERAL GUIDE FOR SHEET CHOOSING											GENERAL CHEMICAL AGENTS
					SPECIFIC GRAVITY MINIMUM	TENSILE STRENGTH MINIMUM	ELONGATION MINIMUM	TEAR STRENGTH MINIMUM	MAX WORKING TEMPERATURES:			ELASTICITY	COMPRESSION	RESISTANCE TO:						
									AIR	OIL	WATER			MIN WORKING TEMPERATURE	ABRASION	FIRE	FUEL	ATMOSPHERIC AGENT AND OZONE		
					S h. A ± 5	Mpa min.*	% min.	N/mm min.*												
SBR INDUSTRIAL	INDUSTRIAL	1011	BLACK	70	1,65	3	200	15	+70	X	+70	-20	C	C	C	C	X	X		
	INDUSTRIAL	1503 R	RED	65	1,46	4	300	15	+70	X	+80	-25	BC	BC	BC	B	X	C		
	INDUSTRIAL	1503 B	WHITE	65	1,46	4	300	15	+70	X	+80	-25	BC	BC	BC	B	X	C		
	INDUSTRIAL HARD	1083	BLACK	82	1,63	5	250	20	+70	X	+80	-20	C	C	C	C	X	X		
NR/SBR-BR ANTIABRASIVE	SUPER ANTIABRASION	1002	BLACK	65	1,13	20	350	70	+80	X	+80	-35	A	A	A	C	X	C		
	ANTIABRASION	1010	BLACK	65	1,19	13	300	40	+80	X	+80	-30	AB	AB	AB	C	X	C		
	ECONOMIC ANTIABRASION	1015	BLACK	65	1,40	6	350	25	+75	X	+80	-25	B	B	B	C	X	C		
NR PARA	NATURAL RUBBER	1506	HONEY YELLOW	40	0,97	20	550	40	+70	X	+70	-35	A	A	B	C	X	C		
	ECONOMIC NATURAL RUBBER	1507	HONEY YELLOW	45	1,10	10	400	40	+70	X	+70	-30	AB	AB	AB	C	X	C		
NBR OIL RESISTANT	FUEL RESISTANT	2026	BLACK	72	1,40	10	320	35	+100	+100	+90	-15	C	B	C	C	A	BC		
	OIL RESISTANT	2001	BLACK	72	1,50	8	350	30	+100	+100	+90	-20	BC	B	C	C	B	C		
	ECONOMIC OIL RESISTANT	ANTI EC	BLACK	70	1,55	5	250	15	+70	+23	+80	-20	BC	BC	C	C	C	C		
CR CHLOROPRENE	SUPER CHLOROPRENE	3015	BLACK	60	1,42	12	400	35	+90	+50	+90	-20	B	B	C	A	BC	B		
	CHLOROPLENE	3012	BLACK	65	1,48	9	300	25	+90	+23	+90	-20	B	B	BC	C	C	C		
	ECONOMIC CHLOROPLENE	NEO EC	BLACK	70	1,55	5	250	15	+70	+23	+80	-20	BC	BC	C	C	C	C		

A = VERY GOOD  
 B = GOOD  
 C = POOR  
 X = BAD

\* R.T. = ROOM TEMPERATURE  
 \* 1Mpa = 10,2 Kg/cm<sup>2</sup>  
 \*N/mm = 1,02 Kg/cm

The values have been noticed in laboratory

ASK TO TECHNICAL OFFICE

CONTINUE ►



# 3.4 SHEETS

## General table of sheets

CLASSES	COMMERCIAL NAME	TYPE	COLOR	HARDNESS	TEST ACCORDING UNI NORMS				GENERAL GUIDE FOR SHEET CHOOSING										GENERAL CHEMICAL AGENTS
					SPECIFIC GRAVITY MINIMUM	TENSILE STRENGTH MINIMUM	ELONGATION MINIMUM	TEAR STRENGTH MINIMUM	MAX WORKING TEMPERATURES:			ELASTICITY	COMPRESSION	RESISTANCE TO:					
									AIR	OIL	WATER			MIN WORKING TEMPERATURE	ABRASION	FIRE	FUEL	ATMOSPHERIC AGENT AND OZONE	
					S h. A ± 5	Mpa min.*	% min.	N/mm min.**											
EPDM ETHYLENE PROPYLENE	SUPER EPDM	4444 SITER	BLACK	60	1,10	12	450	30	+120	X	+100	-30	B	B	BC	C	X	A	
	EPDM	4000	BLACK	60	1,26	7	400	20	+100	X	+90	-25	B	BC	BC	C	X	A	
	ECONOMIC EPDM	EPDM EC	BLACK	70	1,33	5	250	15	+70	X	+80	-20	BC	BC	C	C	X	B	
TOP QUALITY	VITON	6000	BLACK	75	1,90	7	270	20	+200	+150	+100	-10	X	A	C	A	A	A	
	SILICONE	7000 R	RED	60	1,28	5	300	10	+180	C	+100	-50	B	A	C	B	X	A	
	SILICONE	7000 T	TRASP.	60	1,15	8	350	15	+180	C	+100	-50	B	A	C	B	X	A	
SPECIAL	FOOD CONTACT	1532 N	WHITE	60	1,30	9	400	22	+100	+100	+90	-20	B	B	C	C	B	C	
	BRIDGE BEARING	APCR	BLACK	60	1,21	16	450	60	+90	+23	+90	-25	AB	A	AB	C	C	B	
	VENEERING	MOBIL	BICOLOR	44	1,07	23	700	85	+110	X	+100	-35	A	A	A	C	X	B	
	ELECTRICAL INSULATOR	ISOL	GRAY	65	1,25	9	400	25	+80	X	+80	-30	B	B	B	C	X	C	
	TRANSFORMER	2004	BLACK	68	1,25	13	300	45	+120	+120	+90	-25	B	B	C	C	A	BC	
	ANTI-GAS	GAS	BLACK	72	1,24	12	350	60	+100	+100	+90	-20	B	B	C	C	A	BC	
	DYNAMIC JOINTS	1003	BLACK	78	1,17	15	300	60	+80	X	+80	-35	A	A	A	C	X	C	
	SHEET TYPE	2020	BLACK	68	1,20	17	300	80	+100	+150	+100	-30	B	B	AB	C	A	BC	
	SHEET TYPE	3300	BLACK	60	1,66	7	450	20	+100	+100	+100	-25	B	B	C	A	BC	B	
	SHEET TYPE	4300	BLACK	68	1,55	4	400	25	+100	X	+100	-35	C	C	C	A	X	A	
NATURAL RUBBER SHEET TYPE	1509	NATURAL	34	0,93	20	700	30	+60	X	0	-35	A	A	B	C	X	C		

A = VERY GOOD  
 B = GOOD  
 C = POOR  
 X = BAD

\* R.T. = ROOM TEMPERATURE  
 \* 1Mpa = 10,2 Kg/cm<sup>2</sup>  
 \*N/mm = 1,02 Kg/cm

The values have been noticed in laboratory

ASK TO TECHNICAL OFFICE



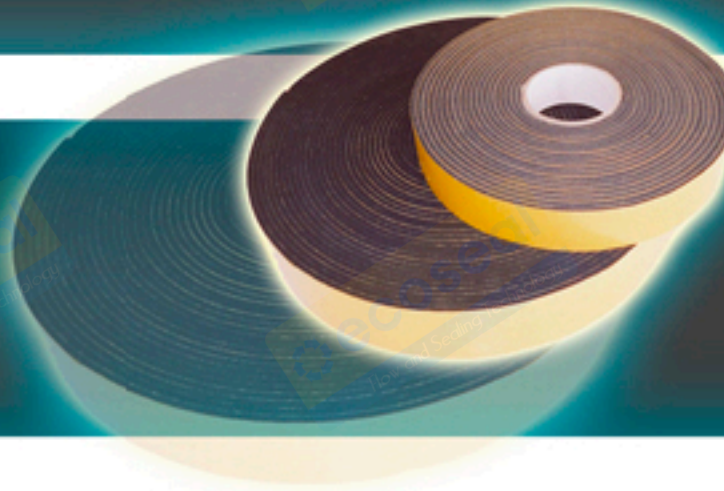




# 4.1 FOAM

## Technology

With its decade's experience in compound materials, **Tovo Gomma** completes its product range with foam materials. The use of high quality, selected raw materials enables the company to supply guaranteed, certified products.



## Systems

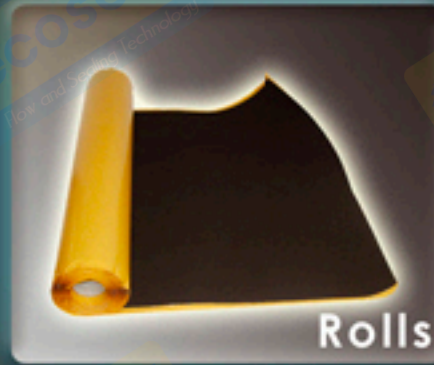
New cutting, self-adhesive processing, die-cutting and packing plants assure high-precision output, with the flexibility necessary to respond to the customers' varying needs.

## Uses

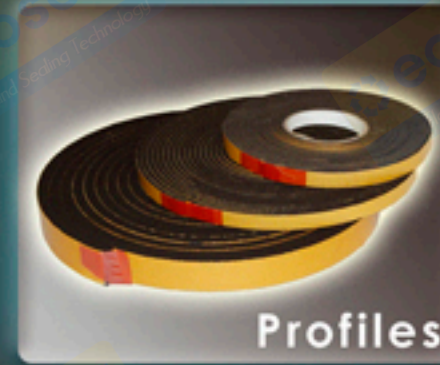
The firm's product engineering and customisation capabilities make **Tovo** foam products ideal in many sectors. The different sizes of



Sheets



Rolls



Profiles



Die-cut

with the use, where required, of special adhesive backings make our products suitable for the thermal and acoustic insulation and footwear sectors, the automotive industry, for sports goods, and... for your own sector, too.

## Sectors for foam applications



Shoe's Field  
Thermal Isolations  
Acoustic Isolations  
Electrical Isolations  
Gaskets  
Sport





## 4.2 FOAM

### Foam categories

POLYMER	CELL	COLOUR	DENSITY CATEGORIES Kg/m <sup>3</sup>	TEMPERATURE °C	THICKNESS	WIDTH	LENGHT
EPDM	CLOSE	BLACK/WHITE	from 70 to 200	-20 / +120	from 1 to 50 mm	from 5 to 1000 mm	from 1 to 100 mt
EPDM-CR	CLOSE	BLACK	from 70 to 120	-20 / +120	from 1 to 50 mm	from 5 to 1000 mm	from 1 to 100 mt
CR	CLOSE	BLACK	from 140 to 180	-20 / +100	from 1 to 50 mm	from 5 to 1000 mm	from 1 to 100 mt
NBR-PVC	CLOSE	BLACK	from 100 to 160	-20 / +100	from 1 to 50 mm	from 5 to 1000 mm	from 1 to 100 mt
NR	OPEN	ORANGE	from 160 to 200	+60	from 5 to 80 mm	from 10 to 1000 mm	2 mt
PVC	CLOSE	BLACK	from 120 to 160	-20 / +100	from 1 to 10 mm	from 5 to 1000 mm	from 1 to 50 mt
PE	CLOSE	BLACK/WHITE	from 25 to 100	-20 / +60	from 1 to 90 mm	from 5 to 1000 mm	from 1 to 100 mt
EVA	CLOSE	BLACK/WHITE	from 30 to 50	-20 / +60	from 1 to 90 mm	from 5 to 1000 mm	from 1 to 100 mt
SILICONE	CLOSE	WHITE	from 200 to 300	-20 / +200	from 2 to 10 mm	from 5 to 1000 mm	from 1 to 10 mt

OTHER QUALITIES ARE AVAILABLE ON DEMAND