



# TPV ELASTOPRENE®

SERIES Ni - INJECTION PROCESSES

## PRODUCT

Dynamically vulcanized thermoplastic (TPV) is a particular type of thermoplastic elastomer (TPE) which offers much better results given the exclusive combination of an elastomeric phase deeply dispersed in a continuous thermoplastic phase.

TPV Elastoprene® is a mixture of polypropylene and dynamically vulcanised EPDM rubber (PP/EPDM), with properties similar to those of other rubber products but with better results than traditional plastic materials. Its composition makes it compatible and particularly suitable for co-injection with polypropylene.

Due to the enormous advantages of processability, vulcanized rubber materials are being substituted by TPV Elastoprene®, using the traditional technology in the transformation of plastic. Furthermore, with the excellent properties obtained, TPV Elastoprene® is replacing plastic materials like PVC.

TPV Elastoprene® is completely recyclable and reusable, safe to the environment, thus improving the overall profitability of the process; an added advantage to rubber production and manufacture.

## PROPERTIES

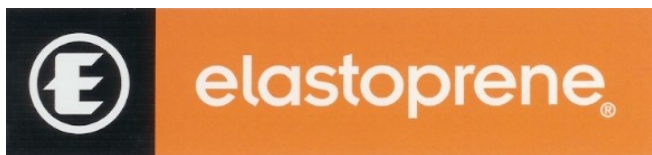
TPV Elastoprene® has good resistance to the effects of the ozone, UV and diverse chemical products, with an operating temperature from -60 to 135°C.

Its mechanical properties are related to the grade of hardness according to the table below:

Properties <sup>1</sup>	Method	Unit	N55A-i	N60A-i	N64A-i	N73A-i	N80A-i	N87A-i	N40D-i	N50D-i
Hardness	ISO 868 (5s)	Shore A	55 A	60 A	64 A	73 A	80 A	87 A	40 D	50 D
Density	ISO 1183	Spec. Grav.	0.95	0.95	0.95	0.94	0.96	0.96	0.94	0.95
Tensile strength	ISO 37	Mpa	4.0	4.5	5.3	6.4	7.8	9.5	16	20
Elongation		%	300	300	380	390	430	460	550	600
Modulus 100%		Mpa	2.0	2.1	2.4	3.0	3.9	4.6	8	10
Compression Set 22h@70°C	ISO 815	%	36	37	37	38	40	43	55	70
Tear Strength @23°C	ISO 34	N/mm	5	7	8	9	13	14	42	54
Colour	-	-	Black	Black	Black	Black	Black	Black	Black	Black

1.- The results were obtained using 2mm injected plaques.

New grades of TPV Elastoprene® are developed on demand for our customers, to satisfy specific requirements for products and processes.



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## APPLICATIONS

The excellent properties of this material make it ideal for the demanding requirements of the automobile industry. Its principle application is for all types of molded parts for injection and overmolding with PP, for both the interior and exterior of vehicles.

In the construction industry, it can be used for supports and sealing profiles.

It can also be used for membranes, wheels and overmolding on handles for tools, electrical appliances and all types of consumer goods.

## TRANSFORMING PROCESS

Traditional machinery is used for the transformation of plastic. TPV Elastoprene® comes in pellet form. Given that this material is hygroscopic, previous drying is recommended (2h@80°C).

Non-conform products, processing scraps, ... can be remanufactured with the addition in a maximum recommended proportion of 20% of the used material without affecting the properties of the end product.

The recommended manufacture of TPV Elastoprene® for typical applications is:

Parameter	Unit	Temperature
Melt temperature	°C	200 ÷ 220 (gradually increased by zones)
Nozzle temperature	°C	210 ÷ 230

## CONTACT

There are TPV ELASTOPRENE® grades for EXTRUSION and BLOW-MOLDING processes, for more information visit our website: [www.elastoprene.com](http://www.elastoprene.com)

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