

GUAMETA AG⁺

RUBBER QUALITY LIST

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Commercial name	Perbunan						
	Acrylic rubber	Polyboron rubber	Epichlorohydrin rubber	Butyl rubber	Hydrogenated NBR	Natural rubber	Acrylonitrile butadiene rubber
	Good resistance to high temperatures and mineral oils, high resistance to oxygen and ozone, unfavourable low-temperature properties.	High mechanical strength, good resistance ozone, medium resistance to oil, flexibility/damping property can be varied as required, excellent resistance to water, slight permanent set.	Low gas permeability, very good low-temperature properties, good resistance to mineral oils, ozone and high temperatures.	Very slightly permeable to air, steam and other gases, good resistance to heat, oxygen, ozone and many chemicals and solvents, good electrical properties (isolating), good resistance to abrasion and tear propagation.	High resistance to heat, ozone and oil, good mechanical properties also at high temperatures, excellent resistance to wear and tear.	Characterized by flexibility, strength and low-temperature resistance as well as excellent physical properties ideal for bonded rubber/metal elements. Not suitable for petrol, grease, oils and ozone.	Highly resistant to abrasion and tearing, particularly resistant to ageing. Particularly recommended for crude oil products, high temperatures, heating and lubricating oils, petrol and paraffin oil.
International designation	ACM	PNR	ECO	IIR	HNBR	NR	NBR
Hardness available	50 – 80 Shore A	10 – 80 Shore A	50 – 90 Shore A	40 – 85 Shore A	40 – 90 Shore A	25 – 95 Shore A	25 – 95 Shore A
Resistance to temperatures	-35° C to +175° C	-40° C to +80° C	-40° C to +130° C	-40° C to +130° C	-40° C to +175° C	-40° C to +80° C	-40° C to +140° C
Short-time peak temperature	+ 200° C	+ 100° C	+ 150° C	+ 150° C	+ 200° C	+ 100° C	up to + 160° C
Tensile strength in kp/sq. cm (N/sq. mm)	160 (16)	170 (17)	170 (17)	170 (17)	300 (30)	250 (25)	250 (25)
Tensile elongation in %	up to 350	300 to 700	150 to 500	400 to 800	150 to 600	800	500
Properties							
Abrasion	moderate	good	moderate	good	very good	good	very good
Resistance to flex cracking	moderate	moderate	good	moderate	very good	good	moderate
Elongation/tensile strength	good	good	good	good	very good	excellent	good
Flexibility	low	as required	moderate	slight	good	excellent	good
Notch strength/strength of structure	–	moderate	good	good	good	excellent	good
Resistance to light	good	good	good	very good	good	bad	bad
Resistance to oxidizing	very good	good	good	very good	good	moderate	moderate
Resistance to ozone	very good	good	very good	very good	good	moderate	moderate
Resistance to wear and tear	good	good	–	good	good	very good	very good
Weathering effect	very good	good	good	very good	good	good	moderate
Resistance to							
Lyes	not suitable	moderate	bad	very good	good	good	good
Petrol	not suitable	not suitable	good	not suitable	good	not suitable	excellent
Benzole	not suitable	not suitable	good	not suitable	moderate	not suitable	bad
Foodstuffs*	not suitable	not suitable	not suitable	suitable	not suitable	suitable	suitable
Solvents, aliphatic	bad	not suitable	good	not suitable	very good	not suitable	very good
Solvents, aromatic	bad	not suitable	good	not suitable	conditional	not suitable	conditional
Solvents, halogene	bad	not suitable	not suitable	not suitable	conditional	not suitable	bad
Oils and greases	very good	conditional	very good	not suitable	very good	not suitable	excellent
Acids	not suitable	moderate	moderate	very good	moderate (conditional)	conditional	conditional
Water	good	excellent	moderate	good	very good	good	good

*with special formulations only · The properties referred to above are given for guidance only

The properties indicated here are affected by temperature, concentration etc. in specific applications and cannot be guaranteed.

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Commercial name	Neoprene	SBR	Polyurethane	Silicone	APTK rubber	Hypalon	Viton
	Chloroprene rubber All-purpose synthetic rubber, flame resistant, resistant to abrasion, very robust, good dielectric strength, particularly recommended for exposure to ozone and weathering.	Styrene butadiene rubber Similar to natural rubber, resistant to abrasion, rubbing in, good resistance to high temperatures and cracking, resistance to extreme low temperatures, not resistant to petrol, benzene, greases and oils.	Polyurethane Excellent resistance to wear and tear, best flexibility with high shore hardness of all the elastomers, good resistance to oil, not resistant to hydrolysis.	Silicone rubber Resistant to high temperatures, odourless and tasteless, nontoxic, can be sterilized in accordance with foodstuffs regulations, resistant to sea water and corrosive salt solutions, not to be used in conjunction with steam, concentrated acids and lyes, swells strongly under the effect of aromatic solvents.	EPDM Ethylene-propylene diene-rubber Versatile in use, very good flexibility, resistant to abrasion, resistant to wear and tear, resistant to ozone and weather, resistant to low temperatures, can be used to protect against washing and spraying agents, excellent for profile cords, not usable in conjunction with petrol, solvents and mineral oils.	Chlorosulphonated polyethylene Fast to light, colour-fast, flame-resistant, good dielectric strength, particularly recommended for exposure to sunlight, ozone, weather and oxidizing, chemicals, however, it has a very low tensile strength.	Fluorinated rubber Hexafluoropropylene vinylidene, fluoride copolymer. Resistant to extreme temperatures even over 200° C. Very good mechanical properties and high resistance to tearing even at high temperatures. Excellent for exposure to sunlight, ozone and weather. Not recommended for use in conjunction with esters and ketones.
International designation	CR	SBR	PUR	MQV/ SI	EPDM/EPM	CSM	FPM
Hardness available	30 – 90 Shore A	35 – 95 Shore A	55 – 98 Shore A	40 – 80 Shore A	30 – 90 Shore A	50 – 95 Shore A	65 – 90 Shore A
Resistance to temperatures	-30° C to +120° C	-30° C to +110° C	-30° C to +80° C	-70° C up to +180° C	-40° C up to +150° C	-40° C to +120° C	-30° C up to +225° C
Short-time peak temperature	up to + 150° C	up to + 150° C	up to + 100° C	up to + 225° C	up to + 180° C	up to + 175° C	up to + 350° C
Tensile strength in kp/sq. cm (N/sq. mm)	250 (25)	250 (25)	300 (30)	80 (8)	200 (20)	180 (18)	200 (20)
Tensile elongation in %	450	450	800	250	450	300	400
Properties							
Abrasion	good	very good	excellent	moderate	good	moderate	moderate
Resistance to flex cracking	very good	good	–	bad	very good	good	good
Elongation/tensile strength	good	good	excellent	bad	good	good	good
Flexibility	good	good	good	good	good	good	moderate
Notch strength/strength of structure	good	good	excellent	moderate	moderate	good	almost good
Resistance to light	very good	moderate	good	excellent	excellent	excellent	excellent
Resistance to oxidizing	good	moderate	good	very good	excellent	excellent	excellent
Resistance to ozone	very good	moderate	good	excellent	excellent	excellent	excellent
Resistance to wear and tear	very good	very good	excellent	bad	good	good	almost good
Weathering effect	very good	good	moderate	excellent	excellent	excellent	excellent
Resistance to							
Lyes	very good	good	not suitable	not suitable	excellent	very good	very good
Petrol	moderate	not suitable	very good	not suitable	not suitable	moderate	excellent
Benzole	not suitable	not suitable	not suitable	not suitable	not suitable	not suitable	good
Foodstuffs*	suitable	suitable	not suitable	excellently suitable	suitable	suitable	not suitable
Solvents, aliphatic	moderate	not suitable	very good	not suitable	bad	moderate	very good
Solvents, aromatic	moderate	not suitable	moderate	not suitable	not suitable	moderate	good
Solvents, halogene	bad	not suitable	bad	not suitable	not suitable	moderate	good
Oils and greases	good	not suitable	very good	good	bad	good	good
Acids	good	conditional	not suitable	not suitable	very good	very good	very good
Water	very good	very good	not suitable	good	very good	good	good

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