Types of materials - rubber compounds and their features

SBR - Styrene Butadiene Rubber, 35 – 95 Shore A

It has similar mechanical properties to natural rubber.

Better:
- Wear resistance,
- Resistance to high temperatures,
- Long service life.

Worse:
- Loss of elasticity at low temperatures,
- Mostly used in tire manufacturing (two thirds),
- Other uses: cable sheathings, floor coverings, seals etc

CR - Chloroprene Rubber, 25- 90 Shore A

It is resistant to aging, fire and weather conditions.

Application:
- Cable sheathings,
- Conveyor belts,
- Flexible pipes,
- Gaskets.

EPDM - Ethylene Propylene Diene Rubber, 30 – 90 Shore A

Resistance:
- Resistant to heat and aggressive compounds,
- Persistent,
- Slow aging,
- Elasticity,

Application:
- Used especially in production of soft hoses and cables in car industry.

NBR - Acrylonitrile Butadiene Rubber, 30 – 95 Shore A

It is resistant to mineral fats, oils and gasoline. Not resistant to aging.

Application:
- Insulation for cables,
- Production of lift buffers,
- Production of soft hoses,
- Conveyor belts,
- Shoe soles,
- Gloves.

VMQ - Silicone Rubber, 30 – 85 Shore A

Its excellent features:
- Resistant to heat,
- Stretchy even at low temperature,
- Resistant to oxygen,
- Resistant to UV-radiation,
- It preserves mechanical and electrical properties in temperature changes.

Application:
- Production of medicines and medical products,
- Production of gaskets,
- Production of soft hoses used for transportation of hot air

AU / EU – Polyurethane Rubber, 55 – 90 Shore A

Low material consumption, resistant to ozone and mineral oils.

Application:
- Rollers,
- Gaskets,
- Insulation of interior parts in cars (furniture and car industry)

Properties of vulcanising rubber:

			Naravni kavčuk	Styrol-Butadienski kavčuk	Butyl kavčuk	Äthylen-Propylen-Dien kavčuk	Silikonski kavčuk	Kloroprenski kavčuk	Nitril-Butadienski kavčuk	Fluor kavčuk	Poliakrilatni kavčuk	Epiclor-hydrinski kavčuk	Klor-sulfatirani kavčuk		
Mednarodne oznake			NR	SBR	IIR	EPDM	VMQ	CR	NBR	FPM	ACM	CO/ ECO	CSM	PNR	PUR
Trgovski naziv			SMR	Buna-Hüls EM	Polysar-Butyl	Buna AP Keltan	Silastic	Baypren Neoprene	Perbunan Krynac	Viton Fluorel	Hycar Vamac	Herclor Hydrin	Hypalon	Norsorex BIPI	Adiprene
Trdota			30-90	35-95	30-80	30-90	30-85	25-90	30-95	60-90	50-90	40-90	45-90	10-45	55-90
Mehanske lastnosti – pri sobni temperaturi	Natezna trdnost		●	◕	◑	◑	◔	◕	◕	◑	◑	◑	◑	◕	●
	Raztezek		●	◕	●	◑	◔	◕	◕	◑	◑	◑	◑	◕	◕
	Odbojna elastičnost		●	◑	○	◕	◑	◑	◔	○	○	○	◔	○	◑
	Žilavost		◕	◑	◑	◑	◔	◕	◑	◔	◔	◔	◑	◔	●
	Obraba		◑	◑	◔	◑	◔	◑	◕	◔	◔	◑	◑	◔	●
	Trajna deformacija	Visoka temperatura	◔	◔	◕	◑	●	◔	◑	●	◑	◑	◔	◑	○
		Nizka temperatura	◕	◑	◕	◑	●	◔	◔	◔	◔	◔	◔	◔	◔
Nizka temperatura			60 ◕	50 ◑	40 ◕	50 ◑	60 ●	45 ◑	30 ◔ 55	25 ◔	25 ◔	40 ◔	20 ◔	◔	30 ◔
Visoka temperatura			80 ○	100 ◔	120 ◑	130 ◔	200 ● 230 K	100 ◑ 130 K	100 ◔ 130 K	200 ● 230 K	150 ◕	140 ◕	120 ◑	◑	80 ◔ 100 S
Obstojnost na	Bencin		○	◔	◔	○	◔	◑	◕	●	◑	◕	◑	○	◕
	Mineralna olja		○	◔	○	◔	◕	◑	●	●	●	●	◑	○	◕
	Kisline (25% H_2SO_4 pri 50°C)		◔	◔	●	●	◔	◕	◕	●	◑	●	●	○	◕
	Lugi 50% NaOH pri 50°C		◕	◕	●	●	○	◕	○	●	◔	◕	●	○	○
	Voda (pri 100°C)		◔	◔	◕	●	◔	◑	◕	◑	○	◕	◑	◔	○
	Obstojnost na ozon		◔	◔	◑	●	●	◕	◔	●	◕	●	●	◔	◕
	Svetloba		◔	◔	◑	◕	●	◑	◔	●	◔	◔	●	◔	◕
Plinoprepustnost			◔	◔	●	◔	○	◑	◕	●	◑	◕	◑	◔	◕

Legenda lastnosti: ● Odlično ◕ Zelo dobro ◑ Dobro (diskutabilno) ◔ Slabo