

Selection by material of the Suction Cup

Material Overview

Description	Abbreviation	NBR	NBR-CO	NBR-ESD	SI (SI-HD/SI-MD)	SI-CO	NK	HT1	HT1-ESD	HT2	ED	PU	VU1	PVC	FPM	EPDM (-ECO)	EPDM-MOS	
	Chemical designation / name	Trade	Nitrile caoutchuc (CO = conductive) (ESD = electrostatic discharge)			Silicone caoutchuc (CO = conductive) (MD = metal detectable) (HD = heavy duty)		Natural rubber	High temperature material (ESD = electrostatic discharge)		High temperature material	Elastodur	Polyurethane	Vulkollan® 4)	Polyvinylchloride	Fluor caoutchuc	Ethylene propylene caoutchuc	Foam rubber made of ethylene propylene caoutchuc
	Colour / Coding		black, grey, blue, light blue	black with blue dot	broom yellow	nature, green, light blue	black with red dot	grey, light brown	blue	orange	black	green, blue	blue	dark green	blue nature	black with white dot	grey, green	black
Chemical Resistance	General weathering resistance	••	••	••	•••	•••	••	•••	•••	••••	•••	•••	•••	••	••••	••••	••••	
	Ozone resistance	•	•	•	••••	••••	•	••••	••••	••••	•••	•••	•••	•••	••••	••••	••••	
	Oil resistance	•••••	•••••	•••••	••	••	•	••••	••••	••••	•••	•••	•••	•••	••••	•• 5)	•• 5)	
	Fuel resistance	••	••	••	•	•	•	••	••	••••	••	••	••	•	••••	•	••	
	Alcohol resistance, ethanol 96%	•••••	•••	•••••	•••••	•••	•••••	•••••	•••••	••	•••	•••	•••	••	••••	••••	••••	
	Solvents resistance	••	••	••	••	••	•	••	••	•••	•	•	•	•	•••	••	••	
	General resistance to acids	•	•	•	••	••	••	•	•	•••	•	•	•	••	•••	•••	•••	
	Bases resistance	•	•	•	••	••	•	•	•	••	•	•	•	••	••	•••	•••	
	Steam resistance	••	••	•••	••	••	•	•••	•••	••	•	•	•	•••	••	•••	•••	
Mechanical Characteristics	Abrasion vlaues	••	••	•••	• (•)	•	••	•••	•••	•	••• (•)	••••	••••	•••	•	••	•	
	Resistance to permanent deformation	••	••	••	••	••	•••	••	••	••	•	••	••	•	••	••	••	
	Tensile strength	••	••	••	•	•	••	••	••	••	••• (•)	•••	••••	••	••	••	•	
	Specific resistance in [Ω x cm]	—	10 ² – 10 ⁵ 1)	10 ⁶ – 10 ⁸ 1)	—	10 ² – 10 ⁵ 1)	—	—	10 ⁶ – 10 ⁸ 1)	—	—	—	—	—	—	—	—	
	Shore hardness to DIN ISO 7619	40 – 80 ± 5	55 ± 5	55 ± 5	40 – 70 ± 5 2) (65 ± 5)	55 ± 5	35 – 55 ± 5	60 ± 5	60 ± 5	65 ± 5	60 – 85 ± 5	55 ± 5	72 ± 5	50 ± 5	65 ± 5	55 ± 5	~15 4)	
Temperature Resistance 3)	Short-term in °C (< 30 sec.)	-30° – +120°	-30° – +120°	-30° – +120°	-40° – +220°	-35° – +220°	-35° – +120°	-25° – +170°	-25° – +170°	-10° bis +250°	-40° – +100°	-40° – +130°	-40° – +100°	-30° – +65°	-10° – +250°	-35° – +130°	-35° – +100°	
	Long-term in °C	-10° – +70°	-10° – +70°	-10° – +70°	-30° – +180°	-20° – +180°	-25° – +80°	-10° – +140°	-10° – +140°	-5° bis +200°	-25° – +80°	-30° – +100°	-30° – +80°	-15° – +50°	-5° – +200°	-25° – +100°	-25° – +70°	
Further Characteristics	Target industry	Universal	(Universal), Electronics	Electronics	Packaging	Electronics	Wood, Packaging	Plastics, Glass, Universal	Glass, Electronics	Glass, Solar, Metal	Packaging, Metal	Packaging	Metal, Packaging, Glass, Wood	Packaging	Glass, Solar, Metal	Glass	Metal, Wood	
	Food grade according to 21 §177.2600 FDA Leaving few marks	CFR			✓			✓	✓		✓		✓ 7)		✓			
	Absence of PWIS (Paint-wetting impairment substances)	NBR-60, NBR-45						✓			ED-85							
	Cleanroom suitability	on request	on request	•••	••• (•)	on request	on request	•••	•••	•••	••• (•)	on request	on request	on request	•••	on request	on request	

1) Depending on size & geometry

2) Post-curing of silicone 4 h/200 °C = ~+5 Shore A

3) Approximate value: depends on ambient temperature, application force, recovery time and wall thickness of suction cup

4) Vulkollan® is a registered trademark of Bayer AG

5) With slight oil wetting

6) Varies, for technical reasons, for foam rubber

7)For PVC: CFR 21 §175.300 FDA

••••• Excellent •••• Very good ••• Good • Poor to satisfactory