

Material description - treads

	Tread material	Material description	Options
Rubber PAH conform	Solid rubber	<p>Solid rubber tyres are universally suitable, vibration-absorbing, shock-resistant, very floor-preserving and resistant to many aggressive substances, except oils (refer to 'Chemical resistance', page 36-37). Colour black, grey or dark grey. Solid rubber tyres are suitable at temperatures between -30° C and +80° C. The hardness is 80°+5°/-10° shore A.</p> <p>For high temperature applications up to +260° C special heat-resistant tyres are used.</p>	<ul style="list-style-type: none"> ■ Non-marking, grey ■ Electrically conductive, leak resistance <math><10^4 \Omega</math>
	Thermoplastic rubber-elastomer (TPE)	<p>Thermoplastic rubber-elastomers are floor-preserving, non-marking and offer a high operational comfort, low-noise operation, low rolling and swivel resistance and are resistant to many aggressive substances (refer to 'Chemical resistance', page 36-37). Colour grey. Thermoplastic rubber-elastomers are suitable at temperatures between -20° C and +60° C. The hardness is 85°±3° shore A.</p> <p>This material contains traces of oil. On absorbent surfaces this can cause some staining.</p>	<ul style="list-style-type: none"> ■ Electrically conductive, non-marking, grey, leak resistance <math><10^4 \Omega</math>
	Soft rubber	<p>'Blickle Soft' soft rubber tyres are characterized by a specially developed, highly elastic, soft rubber compound. These tyres are exceptionally floor-preserving, vibration-absorbing and resistant to many aggressive substances except oils (refer to 'Chemical resistance', page 36-37). They also offer highest operational comfort, low rolling resistance on uneven surfaces and are suitable as puncture-proof replacements of pneumatic tyres. Colour black. 'Blickle Soft' soft rubber tyres are suitable at temperatures between -30° C and +80° C. The hardness is 50°+5° shore A.</p>	<ul style="list-style-type: none"> ■ Non-marking, grey
	Two-component solid rubber	<p>'Blickle Comfort' two-component solid rubber tyres are very floor-preserving, vibration-absorbing and resistant to many aggressive substances except oils (refer to 'Chemical resistance', page 36-37). Colour black. 'Blickle Comfort' two-component solid rubber tyres are suitable at temperatures between -30° C and +80° C. Due to the special structure with hard rubber core (90° shore A hardness) and highly elastic rubber tread (65°±4° shore A), they have a higher load capacity and a lower starting and rolling resistance than solid rubber and offer a very high operational comfort.</p>	<ul style="list-style-type: none"> ■ Non-marking, grey (hardness: 56°±4° shore A)
	Elastic solid rubber	<p>Elastic solid rubber tyres are characterized by a special rubber compound. These tyres are very floor-preserving, vibration-absorbing, offer a particularly high load capacity, very high operational comfort and are resistant to many aggressive substances except oils (refer to 'Chemical resistance', page 36-37). Colour black. Elastic solid rubber tyres are suitable at temperatures between -30° C and +80° C, temporarily up to +100° C and are available in two versions:</p> <ul style="list-style-type: none"> ■ Smooth rolling quality: This version is characterized by a particularly low starting and rolling resistance with high abrasion resistance. The hardness is 65°±3° shore A. ■ Drive-quality: This version has a very high abrasion resistance with low starting and rolling resistance. The hardness is 65°±3° shore A. 	<ul style="list-style-type: none"> ■ Non-marking, grey ■ Non-marking, blue ■ Non-marking, natural colour ■ Friction wheel quality, 70°±5° shore A ■ Electrically conductive, leak resistance <math><10^4 \Omega</math>
	Pneumatic tyres	<p>Pneumatic tyres are made of rubber, are exceptionally floor-preserving, vibration-absorbing and resistant to many aggressive substances except oils (refer to 'Chemical resistance', page 36-37). These tyres also offer highest operational comfort and a low rolling resistance on uneven surfaces. The tyre thickness (strength of the carcass) is indicated by the ply rating number. The higher the ply rating number, the better the strength. Light tyres have a ply rating of 2 to 4, heavy tyres 6 to 10. The strength of the carcass determines the maximum tyre pressure and the load capacity. In order to ensure an optimum efficiency and a long service life, the tyre pressure values specified in the respective tables must be therefore strictly adhered to and regularly checked. A tyre pressure which is either too high or low can damage or destroy the tyre. Colour black. Pneumatic tyres are suitable at temperatures between -30° C and +50° C. Wheel or tyre dimensions are valid for unloaded, new tyres and may slightly change in width and diameter during operation.</p>	<ul style="list-style-type: none"> ■ Non-marking, grey
	Super-elastic solid rubber	<p>Super-elastic solid rubber tyres are multi-component tyres.</p> <p>The rubber core consists of a hard and tough rubber compound with reinforced steel-wire which ensures a firm tyre seat on the rim even with high loads. A highly elastic cushion layer ensures a low tyre temperature even with high loads and at high speeds. The thick, abrasion-resistant tread protects the tyre against external damages and guarantees a long service life.</p> <p>Based on the special structure, the tyre is particularly suitable for extremely rough conditions.</p> <p>These tyres are very floor-preserving, vibration-absorbing and resistant to many aggressive substances except oils (refer to 'Chemical resistance', page 36-37). Colour black.</p> <p>Super-elastic solid rubber tyres are suitable at temperatures between -30° C and +80° C, temporarily up to +100° C.</p> <p>They also offer high operational comfort and a low rolling resistance on uneven surfaces. The advantages over pneumatic tyres are as follows: Puncture-proof and maintenance-free, good stability, structural stability, precise steering behaviour and an abrasion-resistant tread.</p> <p>Wheel or tyre dimensions are valid for unloaded, new tyres and may slightly change in width and diameter during operation.</p>	<ul style="list-style-type: none"> ■ Non-marking ■ Antistatic, leak resistance ≤10⁷ Ω

Material description - treads

	Tread material	Material description	Options
Rubber PAH conform	Silicone rubber	<p>Heat-resistant silicone-elastomer is very floor-preserving, non-marking, abrasion-resistant, highly elastic, suitable for autoclaves, does not degrade over time, odourless, tasteless, physiologically harmless and resistant to many aggressive substances and UV radiation. The material is, however, not resistant to strong lyes, chlorinated and aromatic hydrocarbons. Silicone-elastomers only have moderate mechanical characteristics. They offer a very high operational comfort and only insignificant permanent deformation. Colour black. Heat-resistant silicone-elastomer is suitable at temperatures between -30° C and +250° C. The hardness is 75°±4° shore A.</p>	<ul style="list-style-type: none"> ■ Non-marking, grey
	Thermoplastic polyurethane (TPU)	<p>Thermoplastic, injection-moulded polyurethane-elastomer (TPU) is based on polyesterpolyol (PATH, POT, FPU series) or polyetherpolyol (FPTH series), diisocyanate and glycol. It is floor-preserving, vibration-absorbing, non-marking, non-staining, elastic, very abrasion-resistant and resistant to many aggressive substances, however, only conditionally resistant to hot water and water vapour (refer to 'Chemical resistance', page 36-37). It has also a low rolling resistance. Colour dark grey. Thermoplastic polyurethane is suitable at temperatures between -30° C and +70° C, temporarily up to +90° C. At ambient temperatures above +35° C the load capacity is reduced. The hardness is 92°±3°, 94°±3° resp. 98°±2° shore A. Wheels with polyetherpolyol (FPTH series) are hydrolysis resistant (refer to 'Chemical resistance', page 36-37).</p>	<ul style="list-style-type: none"> ■ Electrically conductive, non-marking, grey, leak resistance <10⁴ Ω
Polyurethane	Blickle Softhane® polyurethane-elastomer	<p>Blickle Softhane® is a reaction-injected polyurethane-elastomer, based on polyesterpolyol, diisocyanate and glycol. It is very floor-preserving, vibration-absorbing, non-marking, non-staining, very abrasion-resistant, elastic and resistant to many aggressive substances and UV radiation, but not resistant to hot water, water vapour, hot, humid air and aromatic solvents (refer to 'Chemical resistance', page 36-37). It also offers a very high operational comfort, a low rolling resistance and a negligible heating under dynamic load. Colour green. Blickle Softhane® is suitable at temperatures between -30° C and +70° C, temporarily up to +90° C. At ambient temperatures under -10° C the rigidity increases. The hardness is 75°±5° shore A.</p>	<ul style="list-style-type: none"> ■ Antistatic, non-marking, grey, leak resistance ≤10⁷ Ω
	Blickle Besthane® Soft polyurethane-elastomer	<p>Blickle Besthane® Soft is a reaction-injected polyurethane-elastomer, based on polyetherpolyol, diisocyanate and diol. It is very floor-preserving, non-marking, non-staining, very abrasion-resistant, elastic and resistant to many aggressive substances and UV radiation (refer to 'Chemical resistance', page 36-37). It also offers a very high operational comfort, exceptionally insignificant permanent deformation, very low rolling resistance, negligible heating under dynamic load, hydrolysis resistance and is particularly suitable for higher speeds up to 16 km/h. Colour blue. Blickle Besthane® Soft is suitable at temperatures between -30° C and +70° C, temporarily up to +90° C. The hardness is 75°±5° shore A.</p>	
	Blickle Extrathane® polyurethane-elastomer	<p>Blickle Extrathane® is a reaction-injected polyurethane-elastomer, based on polyesterpolyol, diisocyanate and glycol. It is floor-preserving, non-marking, non-staining, very abrasion-resistant, elastic and resistant to many aggressive substances and UV radiation, but not resistant to hot water, water vapour, hot, humid air and aromatic solvents (refer to 'Chemical resistance', page 36-37). It also offers exceptionally insignificant permanent deformation, low rolling resistance and negligible heating under dynamic load. Colour light brown. Blickle Extrathane® is suitable at temperatures between -30° C and +70° C, temporarily up to +90° C. At ambient temperatures under -10° C the rigidity increases. The hardness is 92°±3° shore A.</p>	<ul style="list-style-type: none"> ■ Antistatic, non-marking, grey, leak resistance ≤10⁷ Ω
	Blickle Besthane® polyurethane-elastomer	<p>Blickle Besthane® is a reaction-injected polyurethane-elastomer, based on polyetherpolyol, diisocyanate and diol. It is floor-preserving, non-marking, non-staining, very abrasion-resistant, elastic and resistant to many aggressive substances and UV radiation (refer to 'Chemical resistance', page 36-37). It also offers exceptionally insignificant permanent deformation, very low rolling resistance, negligible heating under dynamic load, hydrolysis resistance and is particularly suitable at speeds up to 16 km/h. Colour brown. Blickle Besthane® is suitable at temperatures between -30° C and +70° C, temporarily up to +90° C. The hardness is 92°±3° shore A.</p>	

Material description - treads

	Tread material	Material description	Options
Synthetics	Nylon	<p>Nylon is a thermoplastic synthetic material which is impact-resistant, non-marking, non-staining, corrosion-resistant, very abrasion-resistant, odourless, tasteless, hygienic and resistant to many aggressive substances, except mineral acids, oxidants, chlorinated hydrocarbons and heavy-metal saline solutions (refer to 'Chemical resistance', page 36-37). It also offers a very low rolling resistance. Nylon absorbs and emits humidity, therefore dimension variations, depending on the humidity and temperature of the environment, are possible. Colour natural white or black.</p> <p>Nylon is suitable at temperatures between -40° C and +80° C, temporarily higher temperatures are permissible. At ambient temperatures above +35° C the load capacity is reduced. For high temperature applications up to +250° C a special heat-resistant nylon is used. Colour grey. The hardness is 70°±5° shore D or 85°±5° shore D at special heat-resistant nylon.</p>	<ul style="list-style-type: none"> ■ Electrically conductive, non-marking, grey, leak resistance <math><10^4 \Omega</math> ■ Natural colour (special heat-resistant nylon up to +170° C)
	Cast nylon	<p>Cast nylon is a thermoplastic, reaction-injected synthetic material. It is impact-resistant, non-marking, non-staining, corrosion-resistant, very abrasion-resistant, odourless, tasteless, hygienic and resistant to many aggressive substances except mineral acids, oxidants, chlorinated hydrocarbons and heavy-metal saline solutions (refer to 'Chemical resistance', page 36-37). In regards to load capacity, tension and pressure strength, elasticity, form stability and humidity absorption cast nylon achieves better results than injection-moulded nylon. It also offers a very low rolling resistance. Colour natural beige.</p> <p>Cast nylon is suitable at temperatures between -40° C and +80° C, temporarily higher temperatures are permissible. At ambient temperatures above +35° C the load capacity is reduced. The hardness is 80°±3° shore D.</p> <p>The relatively high floor pressure should be considered for pressure-sensitive floors.</p>	
	Polypropylene	<p>Polypropylene is a thermoplastic synthetic material. It is impact-resistant, non-marking, non-staining, corrosion-resistant, odourless, tasteless, physiologically harmless and resistant to many aggressive substances except strong oxidants and halogenated hydrocarbons (refer to 'Chemical resistance', page 36-37). It also offers a low rolling resistance and does not absorb humidity. In aliphatic and aromatic hydrocarbons expansions may occur, especially at increased temperatures. Colour natural white.</p> <p>Polypropylene is suitable at temperatures between -20° C and +60° C. At ambient temperatures above +30° C the load capacity is reduced. The hardness is 60°±5° shore D.</p>	<ul style="list-style-type: none"> ■ Electrically conductive, leak resistance <math><10^4 \Omega</math> ■ Colour black
	Phenolic resin	<p>Phenolic resin is a thermoset nylon. The material has a very high static load capacity and is corrosion-resistant, suitable for highest thermal requirements and resistant to many aggressive substances except strong acids and lyes. Phenolic wheels are only conditionally suitable for uneven floors and crossing thresholds due to the high abrasion and the limited mechanical stability of phenolic resin. Colour black.</p> <p>Phenolic resin is suitable at temperatures between -35° C and +260° C, temporarily up to +300° C. The hardness is 90°±3° shore D.</p>	
Metal	Cast iron	<p>Rugged, lamellar grey cast iron EN-GJL-250 (GG 25) in acc. to DIN EN 1561 or ductile cast iron in acc. to DIN EN 1563, extremely wear-resistant, very high load capacity, tensile strength and hardness remain almost constant over a wide temperature range (-100° C to +300° C), oil-resistant. Cast iron is suitable at temperatures between -100° C and +600° C. The graphite embedded in the cast iron ensures some rotation for plain bores even without grease and reduces the sensitivity to corrosion. The hardness is 180 - 220 HB.</p> <p>The relatively high floor pressure should be considered for pressure-sensitive floors.</p>	
	Steel	<p>Mild steel, that is particularly suitable for wheels, extremely pressure and wear-resistant, extremely high static and dynamic load capacity. Tensile strength and hardness remain almost constant over a wide temperature range, oil-resistant.</p> <p>Steel is suitable at temperature between -100° C and +600° C. The hardness is 190 - 230 HB.</p> <p>The relatively high floor pressure should be considered for pressure-sensitive floors.</p>	