

thoenes[®]






Gland Packings





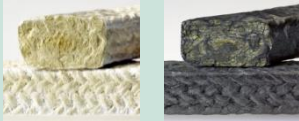
and






solutions for power plants








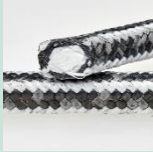



Application limits	
Pump	Valve
p (bar)	vg (m/s)

Artikel	Product	Properties	Application	pH	T _{max} in °C	Application limits					
						p (bar)	vg (m/s)	p (bar)	vg (m/s)	p (bar)	vg (m/s)
G122	E-Glasfasern - Fats impregnation with or without graphite 	- Resistant to oil, grease, solvents and chemical products (low concentration to pH 3-9) - Not resistant to hydrofluoric- and phosphoric acid	- general usage in water, oil, solvents and chemical products	3-8	10 to 100	-	-	8	1,5	30	1,5
G122	E-Glasfasern - PTFE- impregnation with or without graphite 	- Resistant to oil, grease, solvents and chemical products (low concentration to pH 3-9) - Not resistant to hydrofluoric- and phosphoric acid	- general usage in water, oil, solvents and chemical products	2-12	-200 to 250	20	15	40	2,0	60	1,5
C609 C639	Cellulosepackung Cellulosepackung with graphite 	- Resistant to water, sea water, waste water, low concentrated alkalis, grease and oil - Smooth and easy to maintain	Rotary pumps - Chemical industry - Power plants - Paper industry - Water and waste water industry - Mining and building industry - Food and sugar industry - Marine industry	5-12	-50 to 140	25	12	60	2	100	1,5
N506	Ramiepackung - PTFE- impregnation with or without graphite 	- Resistant to water, sea water, waste water, low concentrated alkalis, grease and oil	Rotary- and piston pumps, mixers, stirrers Universalpacking for lower temperatures: - Paper industry - Universal packing - Water and waste water industry - Marine industry - Power plants	4-11	-50 to 130	25	10	60	2,0	100	1,5
P605	Blended yarn packing - Made out of special bended yarn 	- Good resistance to water, steam, organic solvents, oil, tar, gases and inorganic acids - Not resistant to concentrated acids and alkalis	Rotary- and piston pumps, mixers, stirrers - Different industries such as water and waste water works	2-12	-80 to 250	30	20	60	2,0	100	1,5



Artikel	Product	Properties	Application	pH	T _{max} in °C	Application limits					
						Pump		Piston		Valve	
						p (bar)	vg (m/s)	p (bar)	vg (m/s)	p (bar)	vg (m/s)
P609	PTFE-Packing With or without PTFE impregnation 	<ul style="list-style-type: none"> - Almost universal media resistance - Not resistant to alkaline metals in melted or dissolved form 	Rotary- and piston pumps, mixers, stirrers Door seals <ul style="list-style-type: none"> - Paper industry - Chemical industry - General usage - Power plants (PTFE-Pickung with PTFE-impregnation) 	0-14	-200 to 250	-	-	150	2,0	300	1,5
P610	PTFE-Packing oiled 	<ul style="list-style-type: none"> - Almost universal media resistance - Not resistant to alkaline metals in melted or dissolved form 	Rotary- and piston pumps, mixers, stirrers Door seals <ul style="list-style-type: none"> - Paper industry - Chemical industry - Pharmazie - Food industry 	0-14	-200 to 250	15	12	80	2,0	-	-
P638	PTFE/Graphite-Polyimid-packing 	<ul style="list-style-type: none"> - Good resistance to organic solvents, fuels, lubricants, wastewater, acid - Not resistant to highly concentrated alkalis, alkali metals, fluorine compounds at high temperatures 	Rotary- and piston pumps, mixers, stirrers <ul style="list-style-type: none"> - Chemical industry - Chemical waste water - General usage 	0-12	-100 to 200	20	20	250	2	150	-
P639	PTFE-Graphite-Packing with lubrication 	<ul style="list-style-type: none"> - Almost universal media resistance - Not resistant to alkaline metals in melted or dissolved form 	Rotary- and piston pumps, mixers, stirrers <ul style="list-style-type: none"> - Chemical industry - Power plants - Paper industry - General usage 	0-14	-200 to 250	30	25	150	2,0	200	1,5
P640	Aramid-Packing - PTFE impregnation with or without graphite 	<ul style="list-style-type: none"> - Good resistant to solvents, fuels, lubricants, seawater - Not resistant to highly concentrated acids, alkalis, alkali metals 	Rotary- and piston pumps, mixers, stirrers <ul style="list-style-type: none"> - Paper industry - Sugar industry - Power plants - Waste water, mining industry 	2-12	-100 to 250	30	20	80	2,0	150	1,5

Artikel	Product	Properties	Application	pH	T _{max} in °C	p (bar)	vg (m/s)	p (bar)	vg (m/s)	p (bar)	vg (m/s)
P643	Aramid-PTFE-Packung 	<ul style="list-style-type: none"> - Good resistant to solvents, fuels, lubricants, seawater, waste water, abrasive media - Not resistant to highly concentrated alkalis, alkali metals, fluorine compounds at high temperatures and high pressures 	Rotary- and piston pumps, mixers, stirrers, refiner <ul style="list-style-type: none"> - Chemical industry - Paper industry 	2-12	-100 to 250	150	10	1000	1,0	500	1,0
P644	Aramid-Packung - PTFE impregnation 	<ul style="list-style-type: none"> - Good resistant to solvents, fuels, lubricants, seawater - Not resistant to highly concentrated acids, alkalis, alkali metals 	Rotary- and piston pumps, mixers, stirrers, refiner <ul style="list-style-type: none"> - General usage - Chemical industry - Waste water - Paper industry 	2-12	-100 to 250	25	25	100	2,0	-	-
P645	Aramid-PTFE/Graphite-Packung 	<ul style="list-style-type: none"> - Good resistant to solvents, fuels, lubricants, seawater, waste water, abrasive media - Not resistant to highly concentrated alkalis, alkali metals, fluorine compounds at high temperatures 	in all applications with solid fraction, pumps, valves <ul style="list-style-type: none"> - Paper industry - Sugar industry, waste water - Chemical industry 	2-12	-100 to 250	70	25	250	3,0	250	1,5
P645	Aramid-PTFE/Graphite-Packung (zebra-meshwork) 	<ul style="list-style-type: none"> - Good resistant to solvents, fuels, lubricants, seawater, waste water, abrasive media - Not resistant to highly concentrated alkalis, alkali metals, fluorine compounds at high temperatures 	Rotary- and piston pumps, mixers, stirrers, refiner <ul style="list-style-type: none"> - Chemical industry - Paper industry - Waste water 	2-12	-100 to 250	20	25	-	-	-	-
P646	Novoloid-Packung (Kynol-yarn with PTFE impregnation) 	<ul style="list-style-type: none"> - Good resistant to water, waste water, steam, acid, alkalis, solvents, lubricants, - Not resistant to highly concentrated alkalis, alkali metals, fluorine compounds at high temperatures 	Rotary- and piston pumps, mixers, stirrers, refiner <ul style="list-style-type: none"> - Chemical industry - Sugar industry - Paper industry 	1-13	-100 to 250	30	20	100	2,5	150	1,5



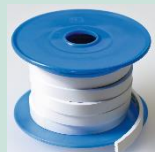
Artikel	Product	Properties	Application	pH	T _{max} in °C	p (bar)	vg (m/s)	p (bar)	vg (m/s)	p (bar)	vg (m/s)
P652	Carbonpacking - PTFE- impregnation 	<ul style="list-style-type: none"> - Almost universal media resistance - except concentrate acids and oxidizing media 	Water pumps, Refiner - Chemical industry - Paper industry - Power plants - Boiler houses	0-14	300	50	20	100	2,0	200*	3,0
P652	Carbonpacking - Graphite impregnation 	<ul style="list-style-type: none"> - Almost universal media resistance - except concentrate acids and oxidizing media 	Rotary pumps, valves, mixer, stirrer, - Chemical industry - Paper industry - Waste water - kommunale Bereiche	2-14	400	35	25	150	2,0	300	2,0
P666	Graphitepacking - With corrosion inhibitors 	<ul style="list-style-type: none"> - Good resistant to solvent, fuel, lubricants, water, steam, chemicals, oils, acids, alkalis, - Not resistant to strong oxidizing media 	valves, sealing caps - Power plants - Boiler houses - Petrochemie - High pressure, -temperature	1-14	-100 to 450	30	30	80	2,0	250*	1,5
P666/V	Graphitepacking - Reinforced with inconel 	<ul style="list-style-type: none"> - Good resistant to solvent, fuel, lubricants, water, steam, chemicals, oil, acids, alkalis, - Not resistant to strong oxidizing media 	valves, sealing caps - Power plants - Petrochemie - Boiler houses - High pressure, -temperature	1-14	-100 to 450	-	-	250	2,0	350	1,5
Slade	Graphitepacking - Vermiculated graphite foil packing with carbon fibre core and additional edge supports made from carbon fibre yarn diagonally braided	<ul style="list-style-type: none"> - Good resistant to solvent, fuels, lubricants, sea water 	rotary pumps, valve, sealing caps, hot steam, high pressure and temperature applications - Power plants - Boiler houses - Chemical industry - Paper industry	1-14	-240 to 1000	350	24	350	2,0	350 (630*)	1,5





Artikel	Product	Properties	Application	pH	T _{max} in °C	p (bar)	vg (m/s)	p (bar)	vg (m/s)	p (bar)	vg (m/s)
P637	Polyimid-Packing 	<ul style="list-style-type: none"> - Good resistant to organic solvent, fuel, oil, acid - Not resistant to concentrate acid, alkalis, hot water and steam 	Rotary- and piston pumps, mixer, stirrer, filter, Extruder, Refiner, low pressure valve <ul style="list-style-type: none"> - Petro- chemical industry - Paper industry - Power plants, mining industry - Sugar industry 	0-12	260 (short 300 - 400 possible)	20	15	60	2,0	100	-
P620	PTFE / PTFE-Graphite-Packing 	<ul style="list-style-type: none"> - Almost universal media resistance - Not resistant to alkaline metals in melted or dissolved form 	Rotary- and piston pumps, mixer, stirrer, filter, Extruder, Refiner, low pressure valve <ul style="list-style-type: none"> - Petro- chemical industry - Paper industry - Pharma industry - Sugar industry 	0-12	250	25	20	250	2,0	250	-
P609/R	PTFE-Packing, rund 	<ul style="list-style-type: none"> - Almost universal media resistance - Not resistant to alkaline metals in melted or dissolved form 	valve, flange, pipes, mechanical housing, pumps, compensator, air conditioner, heat exchanger <ul style="list-style-type: none"> - Chemical industry, Petrochemical industry - Paper industry - Pharma-, sugar industry 	- Static application up to 100 bar, pH 0-14 - max. temperature 250 °C, short 280 °C - when tightening the gland, the packing forms to a stable, durable PTFE bushing							
P639/R	PTFE/Graphite-Packing, rund 	<ul style="list-style-type: none"> - Almost universal media resistance - Not resistant to alkaline metals in melted or dissolved form 	valve, flange, pipes, mechanical housing, pumps, compensator, air conditioner, heat exchanger, refiner <ul style="list-style-type: none"> - Chemical industry - Power plants 	- Static application up to 100 bar, pH 0-14 - max. temperature 250 °C, short 280 °C - when tightening the gland, the packing forms to a stable, durable PTFE bushing							
P641	Aramid-Glassfiber-Packing 	<ul style="list-style-type: none"> - Good resistant to solvent, fuel, lubricants, sea water, ois, and grease - Not resistant to high concentrated acids and alkalis, alkaline metals, hydrofluoric- and phosphoric acid 	<ul style="list-style-type: none"> - Drawing and metal rolling industry - Galvanic applications 	- max. temperature 300 °C , short 370 - 400 °C							

thoenes® Flat gaskets

Product	Properties	Application	pH	T _{max} in °C	p (bar)
PTFE flat gaskets virgin and ePTFE 	<ul style="list-style-type: none"> -Almost universal media resistance -Lowest friction of all solids -No aging -Good electric isolation 	Rotary- and piston pumps, compressor, valve, heat exchanger, flange - Food industry - Chemical industry - Pharma industry	0-14	-180 to 260	100
thoenes® SF TRD 401 expanded graphite (without metallic insertion) 	<ul style="list-style-type: none"> - Excellent chemical resistant, high stress resistant, high flexibility, stable compressibility and recovery, simple handling, good temperature change behavior - Almost universal media resistance, except strong oxidising media 	Rotary- and piston pumps, compressor, valve, heat exchanger, flange - Process industry - oil- and gas industry, Petrochemical industry - Chemical industry - Power plants - Water and waste water - Marine and metal industry	0-14	450	80
thoenes® SL TRD 401 expanded graphite with 1500 x 1500 mm Flat stainless-steel insertion	<ul style="list-style-type: none"> - Excellent mechanical, chemical and sealing properties - Ideal sealing material for high pressures and temperatures, mechanical and thermal changes and shock loads - Almost universal media resistance, except strong oxidising media 	Rotary- and piston pumps, compressor, valve, heat exchanger, flange - Process industry - Petrochemical industry - Chemical industry - Power plants	0-14	450	100
thoenes® SP TRD 401 expanded graphite with 1500 x 1500 mm Tanged stainless-steel insertion	<ul style="list-style-type: none"> - Good chemical and mechanical resistant, stable compressibility and recovery, no aging - Almost universal media resistance, except strong oxidising media 	Rotary pumps, compressor, valve, heat exchanger, flange, furnace - Process industry - Petro-, chemical industry - Power plants - Paper and sugar industry, - Mining and building industry - Metal industry	0-14	450	200

thoenes® Flat gaskets

Product	Properties	Application	pH	T _{max} in °C	p (bar)
High-Temp 710 Glimmer	-high chemical and thermal resistance	exhaust manifolds, gasturbine, oil- and gas burners, heat exchanger, flange - Power plants - Metal industry	-	950/ 1000	5
BA120 fibersheets made of Aramid fibres, inorganic fillers, NBR binder (Nitril Butadien Kautschuk) with and without PTFE envelopes	 <ul style="list-style-type: none"> - good tensile strenght - high stress resistance - very low gas leakage - very good oil resistance <p>Chemical resistant to the most important media: Water/steam, acids, alkalis, oil, refrigerant, solvent, gas</p>	Rotary- and piston pumps, compressor, valve, heat exchanger, flange - Process industry - Oil- and gas industry, Petrochemical industry - Chemical industry, Pharma industry - Power plants - paper industry - Metal industry	-	-100 to 250	120
BA-F fibersheets made of synthetic and mineral fibers, mixed with graphite and NBR binder with and without PTFE envelopes	<ul style="list-style-type: none"> - high stress resistance - long lifetime - no hardening - good handling <p>Chemical resistant to oil, grease, acids, alkalis, solvent, refrigerant, water and steam</p>	Rotary- and piston pumps, compressor, valve, heat exchanger, flange - Process industry - Oil- und gas industry, Petrochemical industry - Chemical industry, Pharma industry - Power plants - Paper industry, sugar industry - water and waste water, mining industry - Metal industry	-	-100 to 350	ca. 100
Fabric rubber seals 	<ul style="list-style-type: none"> - high chemical resistance, high density - made from special rubber coated, chrome steel strengthened ht fibre mesh - calibrated or alternatively pressed, vulcanised and made with graphite - Operation with an added flat seal offers higher pressure resistance and better shape resistance 	sealing cap, tank hatchets - Power plants - building technologies	-	230	30
ePTFE-gasket tapes 	<ul style="list-style-type: none"> - Almost universal media resistance - No aging - Not inflamable - low thermal conductivity - Good electrical insulator 	flange, heat exchanger, sealing cap, tank hatchets - Power plants - water and waste water - building technologies	0-14	-200 to 250	40

Product	Properties	Application	pH	T _{max} in °C	p (bar)
<p>pure graphite rings expanded graphite (purity >99,85 %)</p> 	<ul style="list-style-type: none"> - Easy formability - permanent recovery - Excellent cross section seal - No aging or hardening - Long-term, very high operating safety under extreme operating conditions <p>Almost universal chemical resistance</p>	<p>Rotary- and piston pumps, compressor, valve, flange</p> <ul style="list-style-type: none"> - Process industry - Petrochemical industry - Chemical industry - Power plants - building technologies 	0-14	-200 to 550°C	500 bar je nach Auslegung auch höher
<p>mechanical seals and repair Made from high quality stainless steel, hard metals and silicone carbide</p> 	<ul style="list-style-type: none"> - Dependant upon rotation, independent from rotation, pressure loading, pressure unloading and part assembled properties - New, repaired and completed within short time 	<p>depends on typ: chemie pumps, mixers, food industry, water, waste water</p> <ul style="list-style-type: none"> - Chemical industry - Power plants - Proccess industry, oil- and gas industry, refining infrastructure - Paper industry, water and waste water technology - mining-, sugar- and cement industry 	-	100 to 220 depends on typ	10 - 25 depends on typ
<p>corrugated metal gaskets with or without graphite layers</p> 	<ul style="list-style-type: none"> - for frequent load changes, skewed flange seal strips, low current surface pressures - high seal ability, stress resistance, compressibility and recovery with high temperatures, easy handling, good chemical resistance, no aging 	<p>flange with clean sealing strips, flanges with tongue/groove, barrel-, boiles seals</p> <ul style="list-style-type: none"> - Power plants - Petrochemie und boiler construction 	-	550	160
<p>high volume Packing Ø < 70mm</p> <p>with or without graphite</p> 	<ul style="list-style-type: none"> - resistant to oil, grease, solvent, acid and alkali (low concentration up to pH 3-9) - Not resistant to hydrofluoric- and phosphoric acid <p>Packungen in größeren Dimensionen entsprechen z.B. unserer G122 (Glasfaser-Packung) oder K271 (Keramfaser-Packung)</p>	<p>most used in coal mill doors</p>	Parameter depends on material		

Product	Properties	Application	pH	Tmax in °C	p (bar)
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Special tools
We offer tools for installation and removal of seals, instruments and knives for cutting sealing materials.



Pack knives



hook puller



Pack cutter



Replacement parts



Packing extractor, in the different sizes

The information is based on the current state of our knowledge of the products specified and made to the best of our knowledge and belief. We advise processors that potential risks may arise when using our products for other than intended uses. Under no circumstances does it release the processor from compliance with the statutory provisions. He himself assumes full responsibility for observing the protective measures to be taken when using the products.