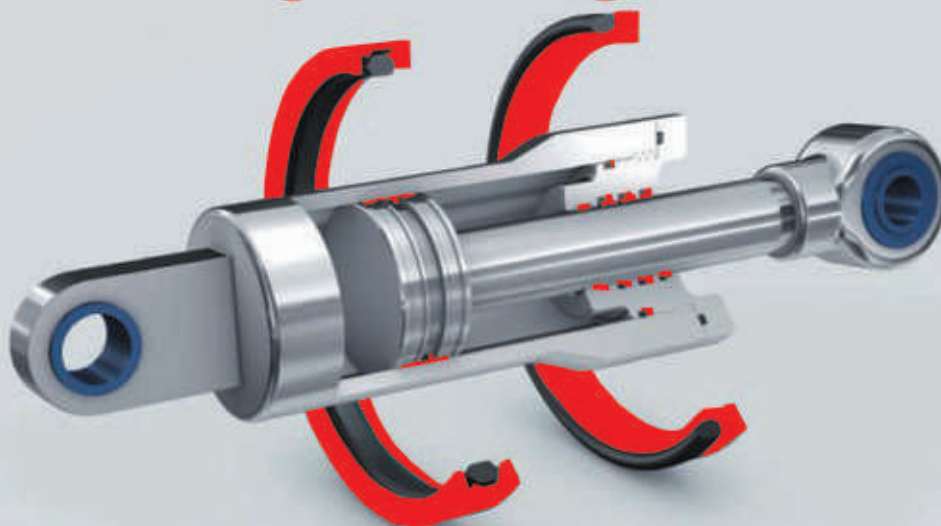




ALTECHINDIA

Complete Solution for Seals & Cylinders

Simplify Your Business with Our Engineering Services



PRODUCT | SOLUTION | SERVICES

ENGINEERING SERVICES aims at uniting various enhanced solutions across the entire value chain, simplifying the process of engineering, logistics, manufacturing and aftermarket for the customer



Engineering



Logistics



Manufacturing



Aftermarket



SPECIAL HANDLING

Special Handling bundles an assortment of individual packaging solutions together with additional services that optimize the mounting and handling of seals.



QUICKSEAL

QuickSeal covers your short-notice needs for sealing solutions, whether you require a prototype, functional sample or a small batch rapidly.



ENGINEERING SUPPORT SERVICES

Altech India provides world-class expert support for your engineering needs, from extensive design & compound competence to leading edge product testing.



ASSEMBLY

Altech India is willing and able to offer pre-assembled parts put together by specially trained staff, delivered directly to the customer.

standard materials specification properties	standard	unit	polyurethanes								
			PU standard polyurethane	HPU hydrolysis-resistant polyurethane	GPU polyurethane for giant seals and big cross sections	LTPU low-temperature polyurethane	HTPU high-temperature polyurethane	SPU self-lubricated polyurethane	XPU hard polyurethane	XHPU hard hydrolysis resistant polyurethane	XSPU hard self-lubricated polyurethane
colour			 green	 red	 red	 blue	 white	 grey/ black	 dark green	 dark red/ yellow	 dark grey
hardness	DIN 53505 / ISO 868	Shore A	95 ¹²	95 ¹²	95 ¹²	95 ¹²	96 ^{12,4}	95 ¹²			
hardness	DIN 53505 / ISO 868	Shore D	48 ¹³	48 ¹³	47 ¹³	48 ¹³	50 ^{13,4}	48 ¹³	57 ¹³	60 ¹³	57 ¹³
ball indentation hardness	DIN 53456 H 135/30	N/mm²									
density	DIN 53479 / ISO 1183	g/cm³	1,20	1,20	1,20	1,17	1,17 [*]	1,24	1,21	1,22	1,26
100% modulus	DIN 53504	N/mm²	≥12	≥13	≥11	≥12	11	17	≥18	≥20	24
tensile strength / yield stress	DIN 53504[53455] ASTM D 4745-79	N/mm²	≥40	≥50	≥45	≥50	45	50	≥50	≥50	45
compressive strength	DIN 53455	N/mm²									
elongation at break	DIN 53504[53455] ASTM D 4745-79	%	≥430	≥330	≥280	≥450	500	380	≥400	≥350	350
modulus of elasticity - tensile test	DIN 53457	N/mm²									
compression set 70°C/24h 20% Def		%	≤30	≤27	≤30	≤27		25	24	26	24
100°C/24h 20% Def		%	≤35	≤33	≤40	≤33		30	29	30	30
100°C /22h	DIN 53517	%									
175°C /24h	DIN 53517	%									
rebound resilience	DIN 52512	%	42	29	43	50					
tear strength	DIN 53515	N/mm	≥100	≥100	≥40	≥80	80	120	≥140	170	160
abrasion	DIN 53516	mm³	18	17	25	15	15	17	18	20	20
minimum service temperature		°C	-30	-20	-30	-50	-35	-20	-30	-20	-20
maximum service temperature		°C	+110	+110	+110	+110	+135	+110	+110	+110	+110
mineral oil based resistance		RT	+	+	+	+		+	+	+	+
		60°C	+	+	+	+		+	+	+	+
HFA-E water +oil emuls. resistance		RT	0	+	+	0		+	0	+	+
		60°C	-	+	0	-		+	-	+	+
water resistance		RT	+	+	+	+		+	+	+	+
		60°C	-	+	0	-		+	-	+	+

due to our innovative manufacturing system, we are able to provide you any special seal profile

legend:
 + suitable
 - not recommended
 0 unknown data or limited resistance
 RT room temperature (20°C)
 * ISO standard
 ** ASTM standard

rubber elastomers						thermoplastics									
NBR acrylonitrile-butadiene rubber	HNBR hydrogenated acrylonitrile-butadiene rubber	FKM Viton® / fluorocarbon rubber	EPDM ethylene propylene diene rubber	MVQ vinyl methyl silicone rubber	TFE/P - ALFAS tetrafluoroethylene propylene rubber (AFLAS)	PTFE virgin polytetrafluoro ethylene	PTFE glass polytetrafluoro ethylene filled with 15% Glass Fibe + 5% MoS	PTFE bronze polytetrafluoro ethylene filled with 40% Bronze	PTFE carbon polytetrafluoro ethylene filled with 25% Carbon	PTFE graphite polytetrafluoro ethylene filled with 15% Graphite	PTFE ekonol polytetrafluoro ethylene filled with 10% Ekonol	POM polyoxymethylene (polyacetal)	PA polyamide	PAEK polyaryletherketone	UHMWPE ultra high molecular weight polyethylene
															
black	black/ green	brown	black	reddish brown/blue	black	white	grey	bronze (brown)	black	dark grey	cream	white/ black	natural/ black	cream	natural/ white
85 ^{±5}	85 ^{±5}	83 ^{±5}	85 ^{±5}	85 ^{±5}	83 ^{±5}										
						57	60	64	65	60 ^{±3*}	56 ^{±3*}	82	77	86	61 ^{±3*}
										26 ^{±5}	28 ^{±5}				36
1,31	1,22	2,30	1,22	1,52	1,60	2,17	2,25	3,00	2,10	2,13	2,04	1,41	1,15	1,32	0,93
≥11	≥10	≥5	≥9	≥5	8										
≥16	≥18	≥8	≥12	≥7	13	27	18	22	15	16 ^{**}	20 ^{**}	62	65	97	40 ^{**}
											11				88
≥130	≥180	≥200	≥110	≥130	200	300	200	280	180	140 ^{**}	250 ^{**}	40	120	≥50	50 ^{**}
												2600	1800	3600	680
≤22	≤22		≤15												
		≤20		≤15	29										
28	29	7	38	44											
21	20	15	21		19										
90	90	150	120		110										
-30	-25	-20	-50	-60	-10	-200	-200	-200	-200	-200	-200	-50	-40		-200
+100	+150	+200	+150	+200	+200	+260	+260	+260	+260	+260	+260	+100	+100	+260	+80
+	+	+	-	+/0	+	+	+	+	+			+	+	+	+
+	+	+	-	+/0	+	+	+	+	+			+	+	+	+
+	+	+	-	0	+	+	+	+	+			+	+	+	+
+	+	0	-	0	+	+	+	+	+			+	+	+	+
+	+	+	+	+	+	+	+	+	+			+	0	+	+
+	+	+	+	+	+	+	+	+	+			+	0	+	+

in any diameter (up to 4.000 mm). do not hesitate to contact our technical department for further informations

complete in product range and services

at altech sealing we offer you:

- sealing solutions tailored to your specifications
- partnership from the design phase to serial production
- just-in-time manufacturing of seals and components up to 4.000 mm diameter
- production of industrial gaskets of any kind
- production of advanced engineering plastics products (AEPP)

quality makes the difference

quality is at the core of everything we do. production breakdowns due to sealing problems can cause huge losses. therefore, we make every effort to deliver high quality sealing products that meet our customers' needs. at exubero sealing, we are constantly striving to enforce and improve our quality standards, since customers demand the highest quality sealing solutions to compete in their highly competitive markets.

superior manufacturing concept

at altech sealing we know that only state-of-the-art technology can provide us with an edge on our competitors. a rapidly changing environment demanded for a new production concept that surpasses our customers' requirements, such as:

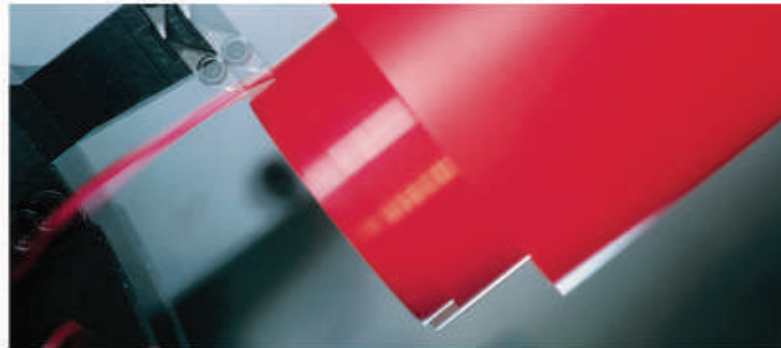
- delivery on demand with short cycle times
- no mould or tooling limitations
- no stock requirements for our customers
- seal engineering to customer specification

to face this challenge, we manufacture seals with cutting edge CNC turning technology to satisfy the very specific needs of every customer, in every industry.

classification of sealing materials

in sealing technology, mainly representatives of two groups of macromolecular (polymeric) substances are used, i.e. substances of the groups of elastomers and thermoplastics.

macromolecular substances are organic compounds whose molecules exist of several thousands, often even millions, of atoms which are known as macro, giant, string or chain molecules. they can be created either by modification of highly molecular natural materials (e.g. natural rubber) or by depositing low-molecular elements (so called monomers) through various chemical reactions (synthetic materials, plastics).



we serve the following industries

- agricultural industry
- automotive industry
- cement, lime, ceramic & refractory industry
- chemical industry
- construction industry
- electronic industry
- food and pharmaceutical industry
- general mechanical engineering
- mining industry
- non-ferrous industry
- oil & gas industry
- plastic & rubber processing industry
- power supply industry
- pulp & paper industry
- shipbuilding industry
- steel industry
- textile industry
- water supply & water treatment industry
- wood & wood processing industry



PISTON SEALS

K01-P  0 1 3	K01-R  0 1 3	K02-P  0 1 3	K02-PD  0 1 3	K02-R  0 1 3	K02-RD  0 1 3
K02-SA  2	K02-SB  1	K03-P  0	K03-F  0	K03-S  0	K04-P  0
K04-PD  0	K05-P  0 1 3	K05-R  0 1 3	K05-SA  1 3	K05-SB  1 3	K05-SE  1 3
K06-P  0 1 3	K06-R  0 1 3	K06-SA  1 3	K06-SB  3	K07-P  0	K08-D  0 1 3
K08-DS  0 1 3	K08-E  0 1 3	K08-ES  0 1 3	K08-P  1 3	K08-SA  1 3	K08-SB  1 3
K08-SC  1 3	K08-SD  1	K08-SE  2 3	K08-SF  1 3	K08-SG  1 3	K08-SH  1 3
K09-N  0	K09-D  0	K09-H  0	K09-F  0	K09-SA  2 3	K09-SB  2 3
K09-SC  2	K09-SD  2	K09-SE  3	K09-SF  3	K09-SJ  2 3	K09-SL  3
K09-SN  3	K09-SO  1	K1012-M  0 3	K1012-SA  3	K1012-T  0	K1315-T  0
K16-A  0 1 3	K16-B  0	K16-SA  1	K17-P  0 1	K17-R  0	K19-F  0 1 3
K20-R  0	K21-P  0	K22-P  0	K22-R  0	K23-N  0 1	K23-D  0
K23-H  1	K23-F  0 1	K23-SA  1	K23-SB  3	K24-P  0	K32-P  0
K35-P  0 1 3	K60  1 3	K61  1 3	K62  2 3	K64  3	K65  2 3
K66  2 3	K67  3	K68  3	K68-B  3	K69  3	K70  3
K71  3	K72  3	K73  3	K74  3	K75  1	K76  1
K77  1	K78  2 3	K80  2	K82  2 3	K86  1	K88  2

ROD SEALS

S01-P  0 1 3	S01-R  0 1 3	S01-SC  1 3	S02-P  0	S02-PD  0	S02-R  0 1
S02-RD  0	S02-S  0 1	S02-SA  2	S03-P  0	S03-F  0	S03-S  0
S04-P  0	S04-PD  0	S05-P  0 1	S05-R  0 1 3	S06-P  0 1 3	S06-R  0 1 3
S06-SA  1 3	S07-P  0 1	S08-P  0	S08-PE  0	S08-R  0	S08-SA  1
S08-SB  1	S09-D  0 1 3	S09-DS  0 1 3	S09-E  0 1 3	S09-ES  0	S09-P  0
S09-SA  1 3	S09-SB  1 3	S09-SD  1	S09-SF  1 3	S09-SG  1 3	S09-SH  1
S1012-T  0	S1012-M  0 3	S1012-SA  2 3	S1315-T  0	S16-A  0 1 3	S16-B  0
S16-SB  1	S17-P  0 1 3	S17-R  0	S17-SA  1	S17-SB  1	S18-P  0 1
S18-R  0	S19-F  0 1 3	S20-R  0	S21-P  0	S22-P  0	S22-R  0
S24-P  0 1	S2527-F  0	S2931-F  0 1	S32-P  0	S32-SA  2 3	S35-P  0 1 3
S60  2 3	S61  1	S62  2 3	S63  2 3	S64  1	S65  1
S67  1	S68  2 3	S69  1	S70  2 3	S73  1	S75  2
S76  1	S78  3				

WIPER

A01-A  0 1 3	A01-B  0 1 3	A02-A  0 1 3	A02-B  0 1 3	A02-I  0 1 3	A02-SA  1 3 3
A02-SB  1 3 3	A03-A  0 1 3	A03-SA  2 3 3	A03-SC  2 3 3	A03-SD  2 3 3	A04-A  0 1 3
A04-B  0 1 3	A05-A  0 1 3	A05-B  0 1 3	A05-I  0 1 3	A06-A  0 1 3	A07-A  0 1 3
A08-A  0 1 3	A08-B  0 1 3	A09-A  0 1 3	A10-A  0 1 3	A11-A  0 1 3	A11-I  0 1 3
A11-SC  1 3 3	A11-SF  2 3 3	A11-SG  2 3 3	A11-SJ  2 3 3	A11-SK  1 3 3	A11-SL  1 3 3
A12-A  0 1 3	A12-B  0 1 3	A13-A  0 1 3	A25-F  0 1 3	A26-F  0 1 3	A27-F  0 1 3
A27-SA  1 3 3	A27-SB  1 3 3	A27-SC  1 3 3	A27-SD  1 3 3	A62-A  3 3 3	A62-C  3 3 3
A63  1 3 3	A64  3 3 3	A65  2 3 3	A66  3 3 3	A67  2 3 3	A68  1 3 3
A69  1 3 3	A70  1 3 3	A71  1 3 3	A72  1 3 3	A73  1 3 3	A74  1 3 3
A75  1 3 3					

GUIDE RINGS

F01  0 1 3	F02  0 1 3	F03  0 1 3	F04  0 1 3	F05  0 1 3	F06  0 1 3
F07  0 1 3	F08  0 1 3				

BACKUP RINGS

ST08  0 1 3	ST09  0 1 3	ST10  0 1 3	ST11  0 1 3	ST12  0 1 3	ST13  0 1 3
ST60  3 3 3					

OIL SEALS

R01-P  0 1 3	R01-R  0 1 3	R01-AF  0 1 3	R01-AS  0 1 3	R01-F  0 1 3	R02-P  0 1 3
R02-R  0 1 3	R60-A  2 3 3	R60-C  3 3 3	R60-D  2 3 3	R60-F  2 3 3	R60-Y  2 3 3
R61-A  2 3 3	R61-C  3 3 3	R61-D  2 3 3	R61-F  2 3 3	R61-G  2 3 3	R61-Y  2 3 3
R62-A  2 3 3	R62-C  3 3 3	R62-D  2 3 3	R62-E  2 3 3	R63-A  2 3 3	R63-C  2 3 3
R63-D  2 3 3	R63-E  2 3 3	R64  2 3 3	R65  2 3 3	R66-A  3 3 3	R66-SA  3 3 3
R67  3 3 3	R68  3 3 3	R69  3 3 3	R70  3 3 3	R71-A  3 3 3	R71-B  3 3 3
R71-C  3 3 3	R72-A  2 3 3	R73-A  2 3 3	R73-C  3 3 3	R74-A  3 3 3	R74-B  3 3 3
R75  3 3 3	R80-A  2 3 3	R81-A  2 3 3	R82-A  2 3 3	R83  3 3 3	R84  3 3 3
R85  3 3 3	R86  3 3 3	R87  3 3 3	R88  3 3 3	R89  3 3 3	R90  3 3 3
R91  3 3 3	R92  3 3 3	R93  3 3 3	R98-A  2 3 3	R98-B  2 3 3	R98-C  3 3 3
R99  3 3 3	R100  3 3 3	R102  3 3 3	R103-A  2 3 3	R103-B  3 3 3	R104-A  2 3 3
R105-A  2 3 3	R105-B  3 3 3	R108  3 3 3	R109  3 3 3	R110  3 3 3	R111  3 3 3
R112  3 3 3	R113  3 3 3	R114-A  3 3 3	R115  3 3 3	R116  3 3 3	R117  3 3 3

ROTO SLIDE SEALS						D-RINGS	O-RINGS		X-RINGS		
R03-P	R03-R	R03-SA	R03-SB	R03-SH	R04-A	R35-A	R13	R13-C	R16-R		
 0	 0	 2 3	 2 3	 2 3	 0	 0	 0 1 3	 3	 0 1 3		
R05-A	R09-F	R09-FS	R10-F	R10-FS	R19-F						
 0	 0 1 3	 0	 0 1 3	 0	 0 1 3						
V RINGS						STATIC OTHERS					
R06-P	R06-R	R06-SA	R06-SB	R06-SC	R06-SD	R12-F	R14	R15-P	R20-P	R20-SA	R30-A
 0	 1 3	 1 3	 1 3	 1 3	 1 3	 0 1	 0 1 3	 0 1 3	 0	 1	 0
R06-SE	R06-SF	R07-P	R07-R			ST61	ST62	ST63	ST64		
 3	 3	 0	 1 3			 1	 1	 1	 1		
ROTARY OTHERS						Legend:					
R08-A	R11-F	R94-A	R95-A	R96	R97	1 machine or molded/standard/trade product					
 0	 0	 3	 3	 3	 3	2 molded/standard/trade product or machine with minor design change					
R118	R119	R120	R121			3 molded/standard/trade product only					
 3	 3	 3	 3			0 only machined					

legend:

- 1 machine or molded/standard/trade product
- 2 molded/standard/trade product or machine with minor design change
- 3 molded/standard/trade product only
- 0 only machined

special materials

data of other special materials such as list below available on request

	material name	color	description
polyurethanes	HPU-95A-blue	blue	hydrolysis resistant polyurethane, 95 shore A, blue
	HPU-95A-natural	natural	hydrolysis resistant polyurethane, 95 shore A, natural
	GPU-57D-yellow	yellow	polyurethane, 57 shore D, casted polyurethane, yellow
	GPU-72D-black	black	polyurethane, 72 shore D, casted polyurethane, black
nitrile fluorocarbons	NBR-85A-white	white	acrylonitrile butadiene rubber, 85 shore A, white
	NBR-85A-LT-black	black	acrylonitrile butadiene rubber, 85 shore A, for low temperature, black
	HNBR-85A-FG-black	black	hydrogenated acrylonitrile butadiene rubber, 85 shore A, food grade, black
	HNBR-85A-LT-black	black	hydrogenated acrylonitrile butadiene rubber, 85 shore A, for low temperature, black
	HNBR-85A-ED-black	black	hydrogenated acrylonitrile butadiene rubber, 85 shore A, explosive decompression grade, black
	HNBR-90A-black	black	hydrogenated acrylonitrile butadiene rubber, 90 shore A, black
	HNBR-93A-black	black	hydrogenated acrylonitrile butadiene rubber, 93 shore A, black
	FKM-75A-PEROX-black	black	fluorocarbon rubber, 75 shore A, peroxide cured, black
	FKM-75A-LC-black	black	fluorocarbon rubber, 75 shore A, low compression set, black
	FKM-80A-black	black	fluorocarbon rubber, 80 shore A, black
	FKM-80A-FG-black	black	fluorocarbon rubber, 80 shore A, food grade, black
	FKM-85A-FG-white (brown)	white/brown	fluorocarbon rubber, 85 shore A, food grade, white/brown
	FKM-90A-black	black	fluorocarbon rubber, 90 shore A, black
	FKM-95A-black	black	fluorocarbon rubber, 95 shore A, black
	EPDM-85A-FG-white	white	ethylene propylene diene rubber, 85 shore A, food grade, white
	EPDM-85A-FG-black	black	ethylene propylene diene rubber, 85 shore A, food grade, black
	EPDM-93A-black	black	ethylene propylene diene rubber, 93 shore A, black
thermoplastics	MVQ-85A-FG-translucent	translucent	vinyl methyl silicone rubber, 85 shore A, food grade, translucent
	TFE/P-85A-ED-black	black	tetrafluoroethylene propylene rubber (AFLAS), 85 shore A, explosive decompression grade, black
	PTFE-57D-turquoise	turquoise	polytetrafluoro ethylene, 57 shore D, filled with 1% pigments, turquoise
	PTFE-60D-GF25-grey	grey	polytetrafluoro ethylene, 60 shore D, filled with 25% glassfiber, grey
	PTFE-60D-GF15-turquoise	turquoise	polytetrafluoro ethylene, 60 shore D, filled with 15% glassfiber & 1% pigments, turquoise
	PTFE-62D-GP-orange	orange	polytetrafluoro ethylene, 62 shore D, filled with glass & pigments, orange
	PTFE-63D-BR46-blue	blue	polytetrafluoro ethylene, 63 shore D, filled with 46% bronze and 1% pigments, bronze blue
	PTFE-64D-BR40-green	green	polytetrafluoro ethylene, 64 shore D, filled with 40% bronze, green
	PTFE-60D-CA-black	black	polytetrafluoro ethylene, 60 shore D, filled with carbon & additives, black
	TEXGRA	grey	polyester fabric reinforced polyester resin with graphite filler, grey

Industries We Cover



Aerospace



Automotive



Food & Beverage



Chemical & Processing



Fluid Power - Hydraulics



Fluid Power - Pneumatics



Machine Tools



Alternative Energy



Healthcare & Medical



Agriculture



Construction vehicles



Manufacturing



Oil & Gas



Marine



Steel & Power

Products We Deal



Fluid Sealing Systems



Static Seals



Bearings and Bushings



Rotary Seals



Pneumatic Seals



O-Rings



Engineered
Molded Parts



Mechanical Face Seals
(Heavy Duty Seals)



Hydraulic & Pneumatic
Cylinders



Brake Shims, Tuned
Absorbers, Rubur Seals



Assembly Units



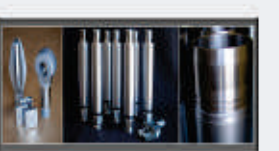
Liquid Silicone Rubber
(LSR)



Customized Aerospace
Sealing



Tubing & Hose



Chrome Platted
Rod & Barrels

Al Tech Sealing Solution India Pvt. Ltd.

PRODUCT | SOLUTION | SERVICES

B-33, Ground Floor, DDA Shed, Okhla Industrial Area, Phase-II, Near Crown Plaza Hotel, New Delhi-110020

Contact: 011-43000780, 43000781 | **E-mail:** info@altechseals.com | **Website:** www.altechseals.com