



West Coast
Polytech LLP

Synthetic Rubbers

Rubber to Metal Bonding Agents

Rubber Chemicals

Polymer bound Chemical Masterbatches

Specialty Chemicals

Specialty Plasticizers

Millable Polyurethanes

Castable Polyurethanes

Ready to use Rubber Compounds



Royalene is one of the most successful and well known EPDM brands in the industry, recognized for its high quality and consistent performance. Royalene EPDM is used in a wide variety of elastomeric applications that require superior heat, ozone and chemical resistance, excellent long term aging and outstanding weathering. Royalene applications include automotive, industrial and consumer hoses, tyre tubes, weatherseals, rollers, molded goods, wire and cable insulations, window profiles, roof sheeting, thermoplastic elastomers, and viscosity modifiers for lubricants. Choose from a wide variety of grades to meet all your specifications and performance requirements.

Royalene EPDM Grades Summary

Grade	Mooney ML 1+4	Wt. % Diene	Ethylene %	E/P Ratio	Polymer Characteristics	Typical Applications
301T	40 125°C	3.1 DCPD	65	67/33	Low Mooney viscosity, DCPD polymer offering excellent processing.	In blends with butyl for inner tubes. Medium voltage cable insulation. Extruded profiles.
360	48 100°C	2.0 DCPD	51	52/48	Low Mooney viscosity, DCPD polymer offering excellent low-temperature and weathering properties.	Viscosity index improver for crankcase and industrial lubricants. Used in multi-grade lubricant formulations.
400	37 125°C	3.0 DCPD	65	67/33	Ultra high molecular weight DCDP polymer extended with 100 phr white, hydro-treated paraffinic oil. Highly extendable.	General purpose. Low durometer compounds. In blends with butyl for inner tubes. Low voltage wire and cable insulations. TPV compounds.
505	55 125°C	8.0 ENB	55	60/40	Medium Mooney, ultra fast cure rate, excellent low-temperature properties, easy processing.	Extruded and molded sponge. Blends with diene rubber for ozone protection. Tire white sidewalls.
509	55 125°C	8.0 ENB	65	71/29	Medium Mooney, ultra fast curing. Excellent shape stability in extruded profiles.	Automotive flocked window channels, for soft sponge extrusions. Co-cures well with SBR.
510	65 125°C	4.5 ENB	72	75/25	High ethylene, fast curing polymer, excellent green strength and electrical properties. Friable bales.	Wire insulation, weatherstrips, hose and extruded products.
511	45 100°C	4.6 ENB	54	57/43	Low Mooney, fast curing grade offering exceptionally easy processing. Excellent mill handling and processing.	Molded mechanical goods, brake components, gaskets. Impact modifier. TPO compounds.
512	57 125°C	3.9 ENB	65	68/32	Medium Mooney, fast cure rate, highly extendable. Good green strength and shape retention. Friable bales.	General purpose mechanical goods. Roof sheeting, hose, extruded profiles and molded products.
515	82 150°C	9.5 ENB	56	62/38	Ultra fast curing, high molecular weight. Friable bales.	High performance applications. High quality automotive dense and sponge weatherstrips.
525	65 125°C	8.1 ENB	55	60/40	Medium Mooney, ultra fast curing grade offering exceptional low-temperature properties. Friable bales.	Automotive flocked window channels. Closed cell sponge profile extrusions. Sponge sheet.
535	51 100°C	9.4 ENB	54	60/40	Low Mooney, ultra fast curing grade offering easy mixing and processing.	Sponge and dense molded corners. High hardness (Shore D) extruded profiles. Tire white sidewalls.
539	70 125°C	4.6 ENB	71	74/26	High Mooney, fast curing, highly extendable grade offering excellent green strength. Friable bales.	Hose tubes and covers, extruded profiles and low cost mechanical goods. Impact modifier. TPO compounds.
547	57 150°C	10.0 ENB	57	63/37	High Mooney, ultra fast curing grade offering excellent compression set. Highly extendable. Friable bales.	Automotive flocked windows channels. Closed cell sponge profile extrusions. Sponge sheet.
556	60 125°C	4.5 ENB	68	71/29	Medium Mooney, fast curing grade offering good green strength. Friable bales.	General purpose. Extruded profiles, hose and mechanical goods.
559	61 125°C	2.3 ENB	60	61/39	Medium Mooney, low ENB for excellent heat aging. Good green strength, low calender shrinkage.	Sheeting molded and extruded mechanical goods. Heat resistant applications. Blends with butyl in inner tubes.
563	75 125°C	4.5 ENB	57	60/40	High Mooney, fast curing, highly extendable grade. Exceptional low-temperature and compression set properties. Friable bales.	Automotive and industrial hose. Extruded profiles. Mechanical goods.



Grade	Mooney ML 1+4	Wt. % Diene	Ethylene %	E/P Ratio	Polymer Characteristics	Typical Applications
575	55 125°C	2 ENB	58	58/42	Low ENB content for good heat aging. Offer excellent milling and calendaring behavior. Good Green Strength.	Calendered roof sheeting. In blends with Butyl rubber in tubes for improved ozone resistance.
580HT	60 100°C	2.7 ENB	52	53/47	Low Mooney, low ENB grade for high temperature Service. Excellent low-temperature performance.	Mechanical goods. Conveyor belting. Chloramine resistant products. Impact modifier. TPO compounds.
636	72 125°C	9.5 ENB	56	62/38	Ultra fast curing, high molecular weight. Extended with 15 phr white, hydro-treated paraffinic oil. Friable bales.	High quality automotive dense and sponge weatherstrips and other high performance applications.
645	48 125°C	8.5 ENB	60	66/34	Ultra fast curing, very high molecular weight. Extended with 75 phr white, hydro-treated paraffinic oil. High green strength.	Abrasion, tear and wrinkle resistant super soft sponge for extruded weatherstrips. Molded sponge corners.
677	50 125°C	4.5 ENB	67	70/30	Fast curing, ultra high molecular weight. Extended with 100 phr white, hydro-treated paraffinic oil. Good green strength.	TPO/TPV compounds. Hose, tubing, profile extrusions for LCM or microwave/hot air curing. Molded products.
694	48 125°C	4.5 ENB	67	70/30	Fast curing, high molecular weight grade extended with 75 phr white, hydro-treated paraffinic oil. High green strength.	TPO/TPV compounds. Hose, tubing, profile extrusions for LCM or microwave/hot air curing. Molded products.
868XE	67 150°C	6.0 ENB	68	72/28	High Mooney, fast curing, highly extendable grade offering excellent green strength.	Extruded profiles and low cost mechanical goods. Impact modifier. TPO compounds.

RoyalEdge EPDM

5041	26 125°C	2.8 DCPD	74	75/25	Very low Mooney, high ethylene polymer. Outstanding processing at low filler loading. Excellent wet electrical stability.	Medium to high voltage insulations. Molded electrical components. Automotive ignition wire.
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Trilene Liquid EPDM

65	—	10.0 DCPD		50/50	Low ethylene terpolymer. 47,000 Da molecular weight (GPC). 177,000 cps viscosity at 100°C.	Compliant with FDA 177.2600 and FDA 175.105. Non-extractible plasticizer for peroxide-cured compounds. Roof and anti-corrosion coatings.
67	—	9.5 ENB		46/54	Very low ethylene terpolymer. 39,000 Da molecular weight (GPC). 128,000 cps viscosity at 100°C.	Non-extractible plasticizer for sulfur-cured compounds. Lowers compound viscosity and is nonvolatile in service.
77	—	10.5		74/26	High ethylene terpolymer. 27,000 Da molecular weight (GPC). 102,000 cps viscosity at 100°C.	Non-extractible plasticizer for sulfur-cured compounds. Lower compound viscosity and is nonvolatile in service. Easy handling at room temperature in solid form.
CP-80	—	—		41/59	Very low viscosity ethylene copolymer. 23,000 Da molecular weight (GPC). 76,000 cps viscosity at 100°C.	Complaint with FDA 175.105, FDA 117.210, FDA 177.1520 and FDA 177.2600. Viscosity thickener for lubricant products providing excellent shear stability.
CP-1100	—	—		43/57	Extremely low viscosity copolymer. 6,400 Da molecular weight (GPC). 1,000 cps viscosity at 100°C.	Complaint with FDA 175.105, FDA 117.210, FDA 177.2600. Viscosity thickener for lubricant products providing excellent shear stability.

Royaltherm EPDM is EPDM modified with silicone rubber. It is recommended for applications that require retention of mechanical strength at elevated temperatures, weather and moisture resistance, electrical stability and compression recovery at low temperatures.

Grade	Mooney ML 1+4	Cure Hardness Shore A	Typical Applications
1411A	23 - 37	30 - 40	Vulcanized with 1.8 phr of dicumyl peroxide. Applications that accept lower tensile strength.
1721	50 - 65	55 - 65	Vulcanized with 1.8 phr of dicumyl peroxide. Applications that require higher tensile strength.



DuPont's rubber-to-metal bonding products offered under the Megum and Thixon brands offer significant advantages in bonding all types of elastomers to a variety of substrates. They can endure highly aggressive and corrosive environments, particularly in transportation applications.

Rubber to be bonded	Conditions of cure or specific properties	Primer	Cover	One Coat
Natural Rubber (NR) Styrene Butadiene Rubber (SBR) Polyisoprene Rubber (IR) Polybutadiene Rubber (BR)	Injection moulding Transfer moulding Compression moulding Corrosion resistance	Megum 3321 / Thixon P21 Thixon P 11 Megum 3276 Megum 3351	Megum 1261 / Thixon 526 Thixon 520 PEF Megum 128 Megum 538	Thixon OSN-2-EF-V Megum 508
Polychloroprene Rubber (CR)		Megum 3321 / Thixon P21 Thixon P 11 Megum 3276	Megum 1261 / Thixon 526 Thixon 520 PEF Megum 538	Thixon OSN-2-EF-V
Nitrile Rubber (NBR)	Standard	Megum 3321 / Thixon P21 Thixon P 11	Megum 1261 / Thixon 526 Thixon 520 PEF	Megum 3276
	Higher heat and oil resistance	Megum 3276 Thixon P 6-EF	Megum 1261 Thixon 520 PEF	Thixon 715-A/B Megum 3340-A/B
Hydrated Nitrile Butadiene Rubber (H-NBR)	Sulphur cured	Megum 3276	Megum 538	
	Peroxide cured			Megum 3340-A/B
Blend of NBR with Polyvinylchloride (NBR/PVC)		Megum 3276 Thixon P 6-EF	Megum 538	Megum 3340-A/B Thixon 715-A/B
Nitrile Carboxylic Rubber (XNBR)		Megum 3276 Thixon P 6-EF	Megum 538	Megum 3340-A/B Thixon 715-A/B
Butyl Rubber (IIR)		Megum 3321 / Thixon P21 Thixon P 11 Megum 3276	Megum 538	
Ethylene Propylene Rubber (EPDM) (Copolymers and Terpolymers)	Sulphur cured	Megum 3321 / Thixon P21 Thixon P 11 Megum 3276	Megum 538 Megum 508	Megum 508
	Peroxide cured	Megum 3276 Thixon P 6-EF	Megum 538 Megum 508	
Chlorosulfonized Rubber (CSM) e.g. Hypalon®		Megum 3276 Thixon P 11	Megum 538 Megum 508	Megum 508 Thixon OSN-2-EF-V
Polyacrylate Rubber (ACM)				Megum 3340-A/B Thixon 715-A/B
Ethylene Acrylate (AEM) e.g. Vamac®		Megum 3290-1 Thixon P 6-EF	Megum 538 Thixon OSN-2-EF-V	Thixon 715-A/B
Fluoro Rubber (FKM)	Amine, bisphenol cured			Megum 3290-1 Megum 3290
	Peroxide cured			Megum 3299
Silicone Rubber (VMQ)				Thixon 305
Epichlorhydrin Rubber (ECO)				Megum 3340-A/B Thixon OSN-2-EF-V Thixon 715-A/B
Millable Polyurethanes (MPU) e.g. Millathane				Megum 3276 Thixon 715-A/B
Castable Polyurethanes (CPU) e.g. Adiprene / Vibrathane	Standard curing			Thixon 422
	Prebake at Temp. > 100°C			Thixon 406
Thermoplastic Polyurethanes (TPU)				Thixon 422



Arkema's subsidiary MLPC International, France is the leading producer of rubber chemicals and polymer bound chemical masterbatches in Europe.

EKALAND: The Ekaland range includes secondary accelerators such as thioureas, thiurams, guanidines and dithiocarbamates as well as anti-oxidants and sulfur donors.

VULTAC: The Vultac range is used as accelerator cum tackifier for curing NR, IIR, etc. in applications such as tyres, inner tubes, latex threads, medical stoppers, etc.

MIXLAND: The use of polymer bound chemicals is being driven by greater emphasis on environmental concerns, shorter mixing cycles, better batch-to-batch uniformity and increased productivity. MLPC's patented polymer binder (acrylate) has better compatibility with other elastomers and provides lower mooney viscosity thus improving the quality of dispersion.

Base	Chemical Name	Chemicals	Polymer Bound Chemicals
CBS	N-cyclohexyl-2-benzothiazyl sulfenamide	-	CBS 80 GA F140
CDBC	Copper dibutyl dithiocarbamate	CDBC GR	-
CTPI (PVI)	N-cyclohexylthiophthalimide	-	CTPI 80 GA F500
DBTU	Dibutyl thiourea	DBTU CRA	-
DETU	1,3-diethyl thiourea	DETU CR	-
DOTG	Diorthotolyl guanidine	DOTG C	DOTG 75 GA F140
DPG	Diphenyl guanidine	DPG C/GC	DPG 80 GA F140
DPTT (TRA)	Dipentamethylenethiuram tetrasulfide	DPTT PD/C	DPTT 75 GA F140
DPTU	Diphenyl thiourea	DPTU PD	-
DTDM	4,4' -Dithiodimorpholine	DTDM PD/C	DTDM 80 GA F200
ETU (NA-22)	Ethylene thiourea	ETU C	ETU 80 GA F140 / F500
HMT	Hexamethylenetetramine	-	HMT 80 GA F500
MBT	2-Mercaptobenzothiazole	-	MBT 80 GA F140
MBTS	2,2' -Dibenzothiazole of disulfide	-	MBTS 75 GA F140
MMBI	Methyl-2-mercaptobenzimidazole	MMBI PD	MMBI 70 GA F200
NDBC (NBC)	Nickel dibutyl dithiocarbamate	NDBC C	NDBC 75 GA F200
OTOS	N-oxydiethylenethiocarbamyl-N-oxydiethylenesulfenamide	-	OTOS 75 GA F200
PBS-R	N-Phenyl-N (Trichloromethylsulfenyl)-benzenesulfonamide	-	PBS-R 80 GA F500
S	Sulphur	-	S 80 GA F500
		-	S M300 80GA F140
SD	5,5'-dithiobis(1,3,4-thiadiazole-2-thiol)	SD C	SD 75 GA F250
TBBS	N-ter.-butyl-2-benzothiazolesulphenamide	-	TBBS 75 GA F200
TBP /VULTAC	Disulfure de paratertiobutylphenol	VULTAC	TBP 75 GA F100
TBzTD	Tetrabenzyl thiuram disulfide	TBzTD C	TBzTD 70 GA F140
TDEC (TL-PT)	Tellurium diethyldithiocarbamate	TDEC PD/C	TDEC 75 GA F140
TMTD	Tetramethylthiuram disulfide	-	TMTD 80 GA F140
TMTM	Tetramethylthiuram monosulfide	TMTM C	TMTM 80 GA F500
ZBEC	Zinc dibenzyl dithiocarbamate	ZBEC PD/C	ZBEC 70 GA F100
ZDBC	Zinc dibutyl dithiocarbamate	ZDBC C	ZDBC 80 GA F140
ZDEC (ZDC)	Zinc diethyl dithiocarbamate	ZDEC C	ZDEC 75 GA F140
ZDMC	Zinc dimethyl dithiocarbamate	ZDMC C	ZDMC 75 GE F500
ZDTP	Zinc dialkyldithiophosphate	-	ZDTP 50 GA F500
ZNO	Zinc oxide	-	ZNO 80 GA F140



Hi-tech rubbers like Polyacrylic (ACM), Vamac® (AEM), Epichlorohydrin (ECO), Fluoroelastomers (FKM), etc. have high performance abilities and require specialized high quality chemicals and auxiliaries to extract their optimum performance.

Safic-Alcan of France is a supplier of a range of speciality chemicals for use with such hi-tech rubbers, and together with the products offered by DuPont and MLPC, we offer the entire range of chemicals required for processing such elastomers.

Our products also enhance the performance of general synthetic rubbers like Nitrile (NBR), EPDM, Polychloroprene (CR), Butyl (IIR), etc.

Products for use with Vamac® (AEM) and Polyacrylic (ACM) Rubbers

Product	Function	Compatible Rubbers
Safic-chem MBPA (Naugard 445)	A low volatility, high amine activity antioxidant. Excellent for high temperature applications.	AEM, ACM, ECO, HNBR
Ofalub SEO (Vanfre VAM)	Excellent internal lubricant during mixing. Free flowing.	AEM, ACM
Ofalub STA (Armeen 18D)	Processing aid. Retarder.	AEM, ACM
Vulcofac ACT 55	Accelerator (Non-carcinogenic, alternate for DOTG, DPG)	AEM, ACM
Vulcofac HDC (Diak-1)	Curing agent	AEM, ACM
Vulcofac HDC MB75	Polymer bound masterbatch of HDC	AEM, ACM
Vulcofac TAC	Co-agent for higher hardness, modulus & tensile strength	AEM, ACM, EPDM
Vulcofac TAIC	Co-agent for peroxide cured elastomers. Improves resistance to hydrolysis and weathering.	AEM, ACM, EPDM, FKM, EVA, CPE
Saficrelease RPM V	External mandrel release agent	AEM, ACM
Alcanplast 810TM	Plasticizer for excellent high temperature flexibility	AEC/ACM
Alcanplast PO80	Plasticizer for excellent high, low temperature performance	AEC/ACM
Alcanpoudre 4ADA-72	Antioxidant for very high temperature performance	AEM
Alcanpoudre A 1100-70	Coupling agent based on a bifunctional amine.	AEM, EVA, aqueous formulations
Alcanpoudre DBU-70	DOTG replacement	AEM, ACM

Products for use with Epichlorohydrin (ECO) Rubbers

Product	Function	Compatible Rubbers	
Vulcofac TZ (Triazine / RF-3752)	Curative. Offers good heat resistance & reduces mold fouling	ECO	
Vulcofac TZ MB70	Polymer bound masterbatch of TZ	ECO	
Akmesperse Litharge	Acid Acceptor	ECO	
Ofalub SMS	Excellent internal lubricant during mixing	ECO	
Safimag Trisil	Activator. Improves scorch safety and shelf life	ECO	
Vulcofac BPS	Curative	Lead-free cure system, it also promotes bonding between FKM and ECO.	ECO
Vulcofac NAC	Acid acceptor		ECO
Vulcofac CP3441	Catalyst		ECO, FKM

Products for use with Fluoroelastomer (FKM)

Product	Function	Compatible Rubbers
Vulcofac BTP (Curative 20)	Curing Agent	FKM
Vulcofac BAF (Curative 30)	Curing Agent	FKM
Vulcofac F 45N	Activator. Ultra pure Calcium Hydroxide (CaOH)	FKM, IIR, CR
Vulcofac HD IMINE (Diak 3)	Curing agent for Diamine cure.	FKM
Safiwax Rice Bran	Excellent internal lubricant during mixing. Used in replacement of Carnauba wax.	FKM



Specialty Antioxidants

Product	Function	Compatible Rubbers
Safic-chem CTPI (PVI)	Improves storage stability of rubbers.	NR, SBR, IIR, EPDM, BR
Safic-chem EW-3100 (Wingstay100)	It offers low volatility & reactivity with antiozonant effect	CR
Safic-chem OMB (BKF)	A non-staining antioxidant of the bisphenol type.	NR, SBR, IIR, EPDM, BR
Safic-chem REC (E/C)	Improves the processing safety of the compound by prolonging the flow times at cure temperature.	NBR, SBR, NR
Safic-chem W-29	Low staining characteristics.	Natural & Synthetic Rubbers
Safic-chem ZMMBI (ZMB2)	Improve the performance of the primary antioxidant. Offer the best thermal stability and maximum flex fatigue resistance in sulfur cure systems.	HNBR, CR

Specialty Curing Agents

Product	Function	Compatible Rubbers
Vulcofac 13PDM MB70 (HVA 2)	Provides fast cure rate	EPDM, CR, CSM, AEM, ACM
Vulcofac CLD MB 80N (CLD 80)	Excellent heat aging resistance. DTDM replacement.	NR, SBR, NBR, EPDM
Vulcofac PHP (TDD)	Provides fast curing speed and good physical properties.	ACM
Vulcofac ZAP (ZAT)	Provides higher curing rates. No Blooming effect	NR, SBR, NBR, EPDM
Vulcofac ZBPD-75	Provides easy dosing and quick dispersion in the mix.	EPDM, NR
Vulcofac ZDTP-70 (ZDT)	Nitrosamine free accelerator. Sulfur donor. Used in replacement of DTDM.	EPDM, NR
Vulcofac TiBTD	Ultra accelerator	EPDM, SBR, NBR, NR
Akem-Sperse MBS-80	Accelerator for low sulphur vulcanization. Provides extended scorch safety.	
Akem-Sperse 634-75	Zinc Dimethacrylate. Co-agent for peroxide cured elastomers.	

Dry Liquid Dispersions (Liquid chemicals converted into powder masterbatch)

Product	Function	Compatible Rubbers
Alcanpoudre BLW-70	Non blooming antioxidant with a high level of flex resistance	NR, SBR, NBR, EPDM, IR, BR, CR
Alcanpoudre EGDMA-70	Provides good viscosity, very good compression set	EPDM, CSM, AEM
Alcanpoudre TMPTMA-70	Provides additional reactive sites for crosslinking	EPDM, EPM, NBR, HNBR
Alcanpoudre Saret 517-70	Co-agent which contains non nitrosamine inhibitor creating scorch retarder package	EPDM, NBR
Alcanpoudre AH-70	Co-agent and processing aid for peroxide cured rubber	EPDM, etc.
Alcanpoudre 69-70 (Si 69)	Offers greater tensile strength, modulus, abrasion resistance	NR, SBR, NBR, EPDM, IR, BR
Alcanpoudre 189-70	Coupling agent for sulphur or metallic oxide cured rubbers (more effective than Si69 and more scorchy in final mix)	NR, SBR, NBR, EPDM, IR, BR
Alcanpoudre 172-70	Coupling agent in mineral-filled peroxide cured compounds	EPDM, PU, etc.

Other Chemicals

Product	Function	Compatible Rubbers
Norsolene S-105 (Cray Valley, USA)	Liquid hydrocarbon resin. Improves processing behavior. Influences important vulcanizate properties	NR, NBR, SBR, IIR, EPDM, Silicone
Cumar P-25 (Neville Chemical Co., USA)	Liquid cumarone indene resin. Tackifying resin with 25°C softening point.	NBR, other synthetic rubbers
Spider Sulfur (HallStar, USA)	Sulfur treated with magnesium carbonate to prevent sulfur crystal formation during vulcanization.	NR, SBR, Latex



Hallstar is a market leader in the design and synthesis of new ester chemistries, with numerous products and customized solutions for demanding performance in industrial and automotive applications.

Grade	Compatibility	Property	Application
TP 95	NBR, EPDM, Polyacrylic, PU, Epichlorohydrin	Improves static electrical resistance. Less lapping and friction, thus increasing product life.	Rubber rollers, spinning cots
		Good resistance to oil and fuel extraction. Low volatility.	Rubber hose, automotive parts, molded parts
TP 90B	NBR, HNBR, Butyl, Epichlorohydrin, NR, SBR	Good oil resistance. Provides wear resistance and flexibility to maintain and improve string properties. Offers excellent electrostatic resistance.	Industrial spinning cots and aprons
		Oil and fuel resistance. Provides low temperature flexibility. Improves weather resistance properties. Improves antistatic properties.	Hose and tubing, automotive and molded parts, wire and cables
TP 759	NBR, HNBR, Vamac, Polyacrylic	Provides low temperature flexibility characteristics. Good antistatic properties.	Automotive belts, automotive parts, moulded parts
		Provides excellent performance in high temperature applications. Offers weather and wear resistance.	Automotive hose, wire and cables
Tegmer 804S	NBR, HNBR, PU, Epichlorohydrin, Polyurethanes, Acrylic resins	Provides low temperature flexibility characteristics. Good antistatic properties. Good resistance to water extraction.	Automotive belts, automotive moulded parts. Adhesive and sealants.
		Provides excellent performance in high temperature applications. Offers weather and wear resistance. Excellent resistance to transmission and hydraulic fluids.	Automotive hose, wire and cables
Tegmer 812	NBR, HNBR, Vamac, Polyacrylic, Polyurethanes	Improves mechanical properties. Good low temperature flexibility.	Automotive belts, automotive molded parts
		Oil extraction resistance, fuel resistance. Low volatility and better performance in high temperature applications. Excellent compatibility with acrylic elastomers, Vamac® and HNBR.	Hoses, tubing, wire and cables
Plasthall 100	CSM, NR, CR	Offers good transmission fluid and water resistance. Gives good low temperature performance. Provides oil resistance.	Automotive and molded parts, boots, gaskets
		Offers weather and wear resistance. Offers flame resistance and improved low temperature properties.	Conveyor belts, hoses
Plasthall 209	NBR, Chloroprene, SBR	Provides maximum low temperature flexibility. Good antistatic property to reduce friction.	Fuel hoses, electrical jacketing
Plasthall 226	NBR, HNBR, Chloroprene, SBR	Excellent low temperature properties. Offers low volatility and excellent hydrocarbon resistance.	Adhesives and sealants, electrical insulation
		Antistatic properties; improves static electrical resistance. Better performance at any range of temperature.	Printing rolls and hoses, molded rubber parts
Plasthall 4141	NBR, HNBR, Polyacrylic, Chloroprene	Oil extraction resistance, fuel resistance, ease of processing during compounding.	Automotive parts and belts
		Offers low volatility with high efficiency. Offers good low temperature properties.	Fuel hose, water seals



Grade	Compatibility	Property	Application
Plasthall P-670	NBR, Chloroprene, Polyacrylic, Fluoroelastomers (FKM)	Provides good permanence after exposure to humid conditions, soapy water and hexane. Improves finishing and appearances.	Automotive interiors, wall covering
		Good low temperature performance and permanence.	Electrical insulation, electrical tape.
Plasthall PR-LCOA	NBR, HNBR, Polyacrylic, Chloroprene	Provides excellent extraction resistance to many fluids.	Automotive products, hoses
		Provides resistance to wear and weather. Enables service at high and low temperatures.	Electrical tapes, wire and cable
Plasthall 7050	NBR, HNBR, Epichlorohydrin	Extremely good extraction resistance against oils and solvents. Increases the life of end product and improves processability.	Automotive products and belts
		Offers low volatility with high efficiency. Excellent low temperature properties. Offers good weather resistance.	Conveyor belts, molded products
Plasthall P-900	NBR, HNBR, Epichlorohydrin	Good oil resistance. Provides superior hydrophilic surface, better antistatic properties, tear resistance.	Automotive molded products and belts
		Eliminates the use of solvents. Prolongs the life of the print roll. Provides smooth and soft surface finish. Excellent water resistance.	Printing rolls, fuel hose
Paraplex G-50	NBR, Polyacrylic, Epichlorohydrin	Offers excellent pigment grinding medium, which makes compounding and processing easy.	Coated fabrics, electrical tapes
		Offers resistance to extraction by oils and hydrocarbons. Offers prolonged mechanical and physical properties at high as well as low temperatures.	Refrigerator gasket, window channels
Paraplex G-54	NBR, PVC, CR	Excellent resistance to migration in rubber-based adhesives. Provides volume resistivity and dielectric strength.	Automotive interiors, coated fabrics electrical tape, gaskets, high temperature applications, surgical tape, rubber belt
Paraplex G-60	NR, SBR, CR, PVC	Provides effective heat and light stabilization Good flexibility at low temperatures.	Flooring, food packaging, pigment dispersant, high-speed tyres to improve grip.
Paraplex G-62	NBR, Polyacrylic, Epichlorohydrin	Offers good permanence properties, effective stabilizing which gives smooth surface finish to end product.	Coated fabrics, flooring
		Offers excellent heat stability. Offers better stability during the construction of end product.	Food packaging, general purpose film
Paraplex A-8000	NBR, Polyacrylic, Epichlorohydrin	Offers good low-temperature performance. Offers resistance to heat, cold and harsh conditions for long term service.	Automotive sealant, automotive parts, moulded parts.
		Offer low-temperature flexibility. Offers better permanence, volatility and migration resistance.	Industrial hose and tubing, automotive belts, wire and cables.
Paraplex A-8210	NBR	Offers improved extraction resistance to solvent and water. Improved humidity resistance.	Coated fabrics
RX-13804	Butyl, Chloroprene, SBR, NR, Thermoplastic polymers	Excellent low temperature properties. Improves surface finish. Enables service over wide range of temperature.	Automotive molded parts Industrial hose and tubing.
Dioplex 904	NBR, PVC	Excellent extraction resistance with good low temperature performance, Excellent resistance to oil and grease.	Appliance gasket, electrical tape, refrigerator gasket, wire and cable, printing industry



TSE Industries, USA is the world's largest manufacturer of millable polyurethane rubbers, sold under the Millathane brand. These rubbers possess a combination of physical and mechanical properties not found in any other rubber, including excellent abrasion resistance, load bearing ability, low temperature flexibility, outstanding oil and ozone resistance and resistance to nitrogen permeability.

Millathane is used in many industrial markets such as business machines, railways, automotive, aerospace, textile, footwear, etc. Typical high performance applications include roller coverings, belts, O-rings, gaskets, diaphragms, seals, vibration isolators, bumpers, impellers, hose tubes & covers and shoe soles.

TSE produces Millathane millable urethanes in both polyester and polyether grades. Polyester grades feature excellent resistance to oil, heat and compression set and are better in sliding abrasion resistance. Polyether types are more hydrolytically stable and resistant to impingement abrasion.

Most Millathane grades are available in a range of viscosities, and are available as dense bales or premilled sheets. All grades are peroxide curable. Sulfur curable grades are Millathane CM, E34, E40, 55, 76.

Millathane	Key Properties	Typical applications
Polyether grades		
Millathane CM	Excellent strength, abrasion resistance and low temperature properties	Military and aerospace parts requiring excellent strength and low temperature resistance
Millathane E34	Abrasion and hydrolysis resistance	Rubber covered rollers for paper and printing industries, footwear
Millathane E40	Outstanding low temperature properties	Military and aerospace parts requiring the optimum in low temperature properties
Millathane 97	Transparency and high abrasion resistance	Transparent shoe soles and shoe components, and brightly colored parts
Millathane 26	Compliance with FDA regulation 1CFR177.2600	Rollers, belting and molded parts, for food and non-food handling applications
Millathane 55	High hardness with good processing	Rubber covered rollers and molded parts
Polyester grades		
Millathane 66	Excellent heat, oil and compression set resistance	Seals, gaskets, belts, rollers needing optimum heat and compression set resistance
Millathane 76	Excellent oil and abrasion resistance	Rollers, O-rings, gaskets, suction cups, vibration isolators, wheels
Millathane 5004	Oil and solvent resistance	Suction cups, diaphragms, rollers for printing and paper handling

Thanecure®

TSE produces two Thanecure products that are used for vulcanization of millable urethane rubbers.

Thanecure ZM	Thanecure ZM is a cure activator/accelerator for sulfur cured millable polyurethanes. It is typically used at 1 phr level which gives a good balance of cure speed and processing safety.
Thanecure T9 SF	Thanecure T9 is dimerized TDI and is used as a vulcanization agent for isocyanate cured millable urethanes. It is also used as an adhesion promoter for rubber to textile bonding.



LANXESS manufactures the Adiprene and Vibrathane range of castable polyurethanes (formerly part of Chemtura-Uniroyal) which are the world's leading high-performance, hot-cast urethane prepolymers. Their superior toughness, abrasion resistance, greater load-bearing capacity, cut resistance, heat build-up resistance and versatility make them popular replacements for steel, plastic and rubber materials.

The Adiprene and Vibrathane range consists of more than 300 grades, renowned for their performance in demanding applications such as mining, rollers for steel, paper, textile & printing, oil & gas machinery, industrial tires & wheels, mould punches for ceramic tiles, golf balls and countless other applications that require outstanding toughness.

Adiprene and Vibrathane MDI and TDI conventional prepolymers come in both ether and ester types.

Adiprene LF Low-Free TDI Systems have free TDI levels of maximum 0.1%, which greatly improve workplace safety and allow production with lower viscosity, longer pour life, faster demolding and lower hysteretic heat buildup.

Adiprene Duracast systems offer easier processing and handling through longer pot life and quick demold time thus reducing waste and increasing productivity. They have the lowest heat buildup from hysteresis, outstanding fatigue resistance and the best retention of properties at high temperatures.

Royalbond PU binders are design for re-use of recycled rubber and PU. They provide superior bond between rubber or PU particles and surrounding polymers, improving flex-life, elongation and weatherability.

Adiprene K Single Component systems have the pre-polymer and curative already mixed in the required ratio. The curative is activated only upon heating of the material which eliminates the problems of short pot life, offering much greater flexibility in processing.

We also provide related products like curatives (Moca, Duracure and Ethacure), mould release agents, bonding agents, pigments, plasticizers and cast PU processing equipment. Demonstrations on casting PU can be arranged in the in-house PU laboratory.

Physical properties of some popular Adiprene & Vibrathane pre-polymer grades

Pre-Polymer grade	Vibrathane TE-90	Vibrathane TE-95	Adiprene LF-950	Adiprene LF-1860	Vibrathane V-8083	Vibrathane V-8090	Vibrathane ME-670	Duracast C-930
Type	TDI-Ether	TDI-Ether	LF-TDI-Ether	LF-TDI-Ester	TDI-Ester	TDI-Ester	MDI-Ester	MDI-PCL
Pot Life	7-10 Mins	4-5 Mins	7-8 Mins	8 Mins	6 Mins	5 Mins	6 Mins	24 Hrs
Hardness, durometer	90A	95A	95A	86A	85A	90A	85A	93A
100% Modulus, psi (Mpa)	1100 (7.6)	1800 (12.4)	2200 (15.2)	850 (5.8)	730 (5.03)	1100 (7.6)	640 (4.41)	1400 (9.65)
300% Modulus, psi (Mpa)	2200 (15.2)	4300 (29.6)	4100 (28.3)	1850 (12.7)	1266 (8.72)	2050 (14.1)	1740 (11.99)	1700 (11.72)
Tensile strength, psi (Mpa)	5500 (37.9)	6500 (44.8)	5500 (37.9)	7100 (49)	6197 (42.7)	7200 (49.6)	6845 (47.16)	6100 (42.05)
Elongation at break, %	430	380	350	550	660	510	670	600
Tear Strength, ASTM D-470, lb/in (kN/m)	90 (15.7)	130 (22.8)	125 (21.9)	130 (23)	116 (20.3)	140 (24.5)	110 (19.25)	160 (28.0)
Tear Strength, Die C, lb/in (kN/m)	600 (105)	700 (123)	500 (87.5)	480 (84)	497 (87.0)	610 (107)	520 (91.0)	465 (81.3)
Compression Strength (22 hrs @ 70°C.), %	30	36	32	33	25	30	30	23
Rebound Resilience, %	42	40	42	29	32	27	30	62
Specific gravity at 24°C.	1.11	1.13	1.13	1.26	1.25	1.25	1.2	1.19

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West Coast Polytech LLP is a leading supplier of new and innovative raw materials, with a strong presence in the Indian rubber industry since 1942. We cater to the industry's requirement of a wide range of synthetic rubbers and related raw material.

West Coast Polytech LLP manufactures and distributes synthetic rubbers, rubber compounds, rubber chemicals, predispersed chemicals, rubber to metal bonding agents, polymeric plasticizers, coumarone resins, mould release agents and various other additives and auxiliaries used in manufacture of rubber products. Our nationwide distribution network ensures prompt and timely response to customer requirements. We also offer comprehensive technical assistance at our full-fledged laboratory for raw material and finished product testing, and new product research and development.

West Coast Polytech LLP is a business partner you can rely on for the best quality products at the most competitive prices.

Distributors for :



C-15 Commerce Centre, 78 Tardeo Road, Mumbai 400034. India

Tel: +91 22 23513754, 23523474, 23523360

Email: sales@westcoastpolychem.com

www.westcoastpolytech.com

Registered Office: 136 Tardeo Road, Mumbai 400034. India