2009 PRODUCT GUIDE

Zetpol HNBR · Hydrin ECO · Nipol NBR · HyTemp ACM · Zeotherm TPVs · Chemisat HNBR LATEX

INSPIRATION THROUGH INNOVATION

ZEON CHEMICALS

PRODUCT DIRECTORY

Zetpol® hydrogenated nitrile elastomers (HNBRs) show much higher resistance than NBR to heat, sour gasoline and ozone. Zetpol displays lower brittleness temperatures than NBR with the same volume swell in gasoline. Low-temperature Zetpol provides excellent retention of properties from -40°C to 160°C for seals, hoses, belts, etc. Zetpol satisfies a wide range of properties required for fuel part applications. It is more cost-effective than FKM, and exhibits little deterioration when exposed to special oil additives. Zetpol can be designed with very high modulus and tensile strength at high temperatures making it ideal for belts, hoses, seals, packings and other parts where high-temperature sealing strength is required. Zetpol resists crude oil and gases as well as diesel oil, amine corrosion inhibitors, steam and acids encountered in drilling. It shows good adhesion to metal and very high tensile strength for parts used in the drilling process. Zetpol offers resistance to chemicals, steam and abrasion, making it an ideal rubber for industrial products. Its excellent dynamic characteristic, tensile strength, wearability, and ozone and heat resistance offer advantages when used in multi-ribbed and timing accessory drive belts.

Hydrin® elastomers (CO/ECO/GECO) are based on polyepichlorohydrin and have an excellent balance of properties for automotive applications: heat, oil, fuel and ozone resistance coupled with notable low-temperature flexibility and adjustable dampening characteristics. The homopolymer, Hydrin H (CO), has superior permeation resistance to gases and air. The copolymer (ECO) and terpolymer (GECO) products are inherently static-dissipative. Terpolymers are now available that have enhanced processing on the mill and in the extruder, and can provide compounds with very low hardness. The terpolymers can be sulfur or peroxide cured.

Nipol® nitrile elastomers (NBRs) are recommended when oil or solvent resistance is needed for the proper functioning of rubber parts. To ensure optimum performance in a variety of conditions, Nipol polymers are available in a broad range of acrylonitrile content. Fuel, oil and solvent resistance improves as acrylonitrile content is increased. Low-temperature flexibility and resiliency are improved as butadiene content increases. Nipol nitriles can be compounded and processed to obtain a broad spectrum of hardnesses and other essential properties. Nipol elastomers are the best value for all but the most demanding oil, heat and chemical applications. They are available in powder, crumb, liquid and bale forms. Nipol nitrile elastomers are especially suitable for thermoplastics and thermoset modification. They are also used as additives in coatings and adhesives.

HyTemp® polyacrylate elastomers (ACMs) are ideally suited for applications requiring long-term performance in severe temperature and fluid environments. HyTemp and Nipol AR can be compounded to withstand an impressive temperature range of -40°C to 200°C. Long-term oil resistance and low compression set are where HyTemp and Nipol AR excel. Both have excellent resistance to petroleum and synthetic-based oils including motor oil and transmission fluid. The balance of low-temperature performance and oil resistance is determined by the ratio of various acrylate monomers. To accommodate, a wide range of HyTemp and Nipol AR grades is available, including the newest HT-ACMs HyTemp AR12 and HyTemp AR212HR, which offer outstanding compression stress relaxation in high-temperature environments. Polyacrylates can be processed using all common methods including compression and transfer molding, injection molding, calendering and extrusion. Polyacrylates are ideal for automotive underhood applications including transmission seals, engine seals and gaskets, and oil and air management (TDI) hoses. Industrial applications include binders, adhesives and seals.

Zeotherm® thermoplastic vulcanizates (TPVs) provide the excellent heat and oil resistance characteristic of thermoset elastomers, while dramatically reducing processing time by eliminating the need for mixing and curing. As the world's first TPVs capable of withstanding long-term exposure to heat and oil and temperatures from -40°C to 175°C, Zeotherm TPVs feature hardness ranges comparable to those of thermoset elastomer compounds. Zeotherm TPVs are an excellent choice for creating thermoplastic blow-molded, injection-molded and extruded parts that hold up in even the most demanding environments, such as automotive underhood applications and industrial usage. In addition to reducing the time associated with processing, Zeotherm TPVs are readily recyclable, helping reduce processing costs.

Chemisat® hydrogenated nitrile elastomer latex (HNBR) is an innovative latex that offers an operating range up to 150°C and resists oils, fluids, ozone and abrasion with low-temperature flexibility and advanced adhesive properties. Unlike conventional HNBR processes, Chemisat involves hydrogenation of latex without intervening conversion to a dry HNBR. It offers superior performance for applications such as fabric coatings, non-woven binding, paper saturation, high-temperature bindings, film and coatings, and other applications that require heat and oil resistance.

DuoMod® tougheners offer the performance needed in the next generation of high-performance composites. They provide increased fracture toughness and improved damage tolerance in a wide range of applications including aircraft/aerospace, recreation/sporting goods, automotive, industrial and construction. Unlike other tougheners, DuoMod products do not significantly affect flexural or thermal properties of composite laminates. Performance improvements are independent of resin processing conditions. DuoMod particulate tougheners are useful in prepreg processes and in adhesives.

Quintone® C5 and C5/9 hydrocarbon resins are used in the manufacturing of a variety of pressure-sensitive adhesives and other products, including hot-melt road marking. An excellent tackifier, Quintone is available in several grades, providing a wide range of softening points. When used with Quintac SIS block copolymers, this resin allows the production of adhesives with a wide range of performance properties, including tack, cohesive strength and holding power.

Quintac® SIS block copolymers are used by the makers of the highest-quality pressure-sensitive adhesives and hot-melt adhesives. This resilient polymer is available in a selection of grades to allow a high level of manufacturing flexibility, with a wide range of performance and processing benefits. When used with any of the Quintone hydrocarbon resins, this polymer's physical properties make it the right choice for a variety of projects.

Zealloy® polymers are designed exclusively for plastics modification and other nontraditional uses of polymers. They are effective additives for providing flexibility and impact resistance to thermoplastics formulations, especially PVC. When compared to conventional monomeric plasticizers, Zealloy polymers provide improved resistance to deformation at elevated temperatures and improved embossing of calendered and thermoformed products. They also offer negligible volatility and migration and are resistant to extraction by a wide range of chemicals. Uncrosslinked Zealloy polymers do not significantly affect compound flow characteristics. This makes them especially well-suited for complex injection-molded parts and parts molded under low pressure. Pre-crosslinked Zealloy polymers are recommended for extruded and calendered goods where low nerve and resistance to sag are required. Zealloy polymers are available in particulate form or as fine powders with PVC or mineral partitioning agents.

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ZEON CHEMICALS

Nipol® Nitrile Elastomers

Product Grade	% ACN	Mooney Viscosity	Specific Gravity	Hot/ Cold	AO Type	Special Properties / Applications
1000x132	51	45-65	1.02	C	SS	Ultra-high ACN level for maximum oil and fuel resistance and low gas permeability.
DN003	50	70-85	1.02	C	SS	Very high ACN level for excellent resistance to oils and fuels. Low fuel permeability.
DN4580	45	73-87	1.00	C	NS	High ACN for balance of low temperature, fuel resistance and low fuel permeability.
DN4555	45	48-63	1.00	C	NS	High ACN for balance of low temperature, fuel resistance and low fuel permeability.
1000x88	43	70-90	1.00	H	SS	Excellent in adhesives when blended with phenolic resins.
DN4265	42	58-72	1.00	C	NS	High ACN for balance of low temperature, fuel resistance and low fuel permeability.
1041	41	75-90	1.00	C	NS	Polymerized at low temperatures to give better processing. Provides good tack for rolls and belting.
1001CG	41	70-95	1.00	H	SS	Excellent oil and fuel resistance. Has controlled cement viscosity. Useful in adhesives.
1001LG	41	70-90	1.00	H	NS	Similar to 1001CG, but can be dissolved in solvents without milling. Contains no fatty acids or soaps.
1001HV	41	80-100	1.00	H	SS	Higher Mooney version of Nipol 1001LG.
1051	41	60-75	1.00	C	NS	Easy-processing version of Nipol 1041 with similar properties. Widely used in the petroleum industry.
1031	41	55-70	1.00	C	NS	Excellent fuel and water resistance. Very low corrosion to metals.
40-5	41	43-53	1.00	C	NS	Combines excellent physical properties and processability with very high oil resistance. Recommended for oil field parts and other applications requiring high oil resistance.
DN4080	40	73-88	1.00	C	NS	Low mold fouling, fast curing and easy processing. High oil and fuel resistance.
N300	40	50-63	1.00	C	SS	General-purpose, high ACN level medium-viscosity polymer. Improved resistance to oils and fuels.
DN4050	40	45-60	1.00	C	NS	Low mold fouling, fast curing and easy processing. High oil and fuel resistance.
DN3650	36	45-55	0.98	C	NS	Low mold fouling, fast curing and easy processing. Good balance of low-temperature flex and solvent resistance.
DN3635	36	30-40	0.98	C	NS	Low mold fouling, fast curing and easy processing. Good balance of low-temperature flex and solvent resistance.
35-8	35	66-80	0.98	C	NS	General-purpose, high Mooney viscosity nitrile rubber. Combines exceptional physical properties and outstanding oil resistance. Recommended for critical industrial and automotive extruded goods.
35-5	35	43-53	0.98	C	NS	General-purpose, intermediate-viscosity nitrile rubber. Combines superior physical properties and solvent resistance. Recommended for industrial and automotive applications, transfer molded goods, footwear, etc.
1042	33	75-90	0.98	C	NS	Well suited for graphic arts rolls and other rubber products requiring high durability.
DN3380	33	75-85	0.98	C	NS	Low mold fouling, fast curing and easy processing. Good balance of low-temperature flex and solvent resistance.
DN214	33	70-85	0.98	C	NS	Pre-crosslinked to give low die swell and nerve to extruded goods. May be blended with other polymers to improve extrusion.
1002	33	75-100	0.98	H	NS	The original medium-high ACN. Provides good long-term water resistance.
1032	33	55-70	0.98	C	NS	Excellent water resistance with very low metal corrosion. Very good building tack. FDA applications.
1022x59	33	53-68	0.98	H	NS	Pre-crosslinked to provide low nerve and minimum die swell in extruded goods. Excellent as a compounding ingredient in PVC and ABS.

Nipol® Nitrile Elastomers

Product Grade	% ACN	Mooney Viscosity	Specific Gravity	Hot/ Cold	AO Type	Special Properties / Applications
1052	33	45-60	0.98	C	NS	Excellent general-purpose nitrile. Provides exceptional processing and blending with other polymers.
33-5HM	33	47-57	0.98	C	NS	Low mold fouling, high-modulus, 55 Mooney nitrile rubber. Recommended for high-temperature injection molding.
DN3350	33	45-55	0.98	C	NS	Low mold fouling, fast curing and easy processing. Good balance of low-temperature flex and solvent resistance.
1022	33	40-55	0.98	H	NS	Low viscosity, directly soluble with wide FDA acceptance.
1032-45	33	40-55	0.98	C	NS	Slightly lower Mooney grade of Nipol 1032.
N624B	33	38-50	0.98	C	NS	Medium viscosity/medium resistance to fuels and oils. Specialty grade for extruded/calendered flat goods, sponge, hose and belting. Well suited for mill mixing. Low water swell.
DN3335	33	30-40	0.98	C	NS	Low mold fouling, fast curing and easy processing. Good balance of low-temperature flex and solvent resistance.
1052-30	33	25-40	0.98	C	NS	Low Mooney version of Nipol 1052.
33-3	33	25-34	0.98	C	NS	General-purpose, low-viscosity nitrile rubber. Designed for injection molding and resistance to mold fouling.
1092-80	32	70-85	0.98	C	NS	Provides a good blend of tack, physical properties and water resistance.
30-8	30	60-74	0.97	C	NS	General-purpose, high-viscosity nitrile rubber recommended for applications requiring improved physical properties, such as footwear, hose jackets, belt covers, etc.
30-5	30	42-52	0.97	C	NS	General-purpose, intermediate-viscosity nitrile rubber for industrial and automotive hose and seals, printing rolls and applications requiring easy processing.
1043	29	75-90	0.97	C	NS	Provides better physical properties than the 1050 series and better processing than the 1000 series.
1053	29	45-60	0.97	C	NS	Used where low temperature and good mold flow are required. Easier processing than Nipol 1043.
DN2880	28	75-85	0.97	C	NS	Low mold fouling, fast curing and easy processing. Good balance of low-temperature flex and solvent resistance.
DN2850	28	45-55	0.97	C	NS	Low mold fouling, fast curing and easy processing. Good balance of low-temperature flex and solvent resistance.
DN2835	28	30-40	0.97	C	NS	Low mold fouling, fast curing and easy processing. Good balance of low-temperature flex and solvent resistance.
N917	23	55-70	0.95	C	SS	Medium-high viscosity for compression/transfer molding. Special grade for molded goods, hose and belts requiring oil resistance and operating service of +125°C to -50°C. High resilience. Low water swell.
1014	21	75-90	0.95	H	SS	Good low-temperature properties. Blends with natural rubber.
1094-80	22	65-80	0.95	C	NS	Low-temperature resistance with outstanding physical properties.
1034-60	21	55-70	0.95	C	SS	Provides low-temperature and very good water resistance.
DN401L	19	59-71	0.94	C	NS	Very good low-temperature flexibility and good processing properties. Higher viscosity version of Nipol DN401LL.
DN401LL	19	32-44	0.94	C	NS	Very good low-temperature flexibility and low viscosity for superior processing properties.

Nipol® Carboxylated Nitrile Elastomers

Product Grade	% ACN	Mooney Viscosity	Specific Gravity	Hot/ Cold	AO Type	Special Properties / Applications
NX775	26	38-52	0.98	C	NS	Excellent processing with conventional coated zinc oxides. High-performance injection molding, rolls, calendered belting and extruded hose. Fast cure rate. Carboxyl content is 0.083 EPHR.
1072	27	40-55	0.98	C	NS	Oil-resistant mechanical goods with outstanding abrasion resistance. Carboxyl content is 0.075 EPHR.
1072CGX	27	20-35	0.98	C	NS	Cement-grade version of Nipol 1072.
1072X28	27	35-55	0.98	C	NS	Pre-crosslinked version of Nipol 1072. Exhibits very low nerve for extrusion and calendered goods.
DN631	33	48-63	0.98	C	NS	Exhibits good oil resistance and high tensile strength and is used in belt, seal and roll applications.

Nipol® Terpolymer Elastomers

Product Grade	% ACN	Mooney Viscosity	Specific Gravity	Hot/ Cold	AO Type	Special Properties / Applications
DN1201	35	72.5-82.5	0.98	C	NS	Acrylonitrile-butadiene-isoprene terpolymer. Has better physicals and processing than conventional nitrile rubber. Used for rolls, diaphragms and rubber thread.
DN1201L	35	40-52	0.98	C	NS	Low Mooney version of DN-1201.
DN1205	33	55-70	0.98	C	NS	Bound antioxidant material for long-term fluid exposure.
DN1405	22	55-70	0.95	C	NS	Particularly well suited for low-temperature applications.

Nipol® Liquid Nitrile Elastomers

Product Grade	% ACN	Specific Gravity	Hot/ Cold	AO Type	Viscosity (cps)	Special Properties / Applications
1312	28	0.96	H	NS	20,000-30,000	Plasticizer used for nitrile, neoprene and PVC compounds. Improves knitting and flow. May also be used in plastisols and phenolic resins.
1312LV	26	0.96	H	NS	9,000-16,000	Same as 1312 with lower viscosity.
DN601	20	0.98	C	NS	5,300-6,300	Carboxylated liquid nitrile suggested for resin modification in adhesives and coatings.

Nipol® Polyblack Masterbatches

Product Grade	% ACN[1]	Black Type	Black (phr)	Specific Gravity	Nipol Base Polymer	Hot/ Cold	AO Type	Special Properties / Applications
9040	40	N330	50	1.2	40-5	C	NS	Recommended for use in molded goods requiring high tensile, solvent and oil resistance.
9025	35	N660	75	1.25	35-5	C	NS	Recommended for use in extruded goods requiring medium-high solvent and oil resistance.
DN120	33	N234	50	1.19	33-3	C	NS	Recommended for mechanical goods requiring medium-high solvent and oil resistance.

Nipol® Nitrile Powder and Crumb Elastomers

Product Grade	% ACN	Mooney Viscosity[1]	Cement Viscosity (cps)	Median Particle Size (mm)	TG, (°C) Typical Value	Hot/ Cold	Special Properties / Applications
1401LG	41	70-90	1,000-10,000	9.5	-18	H	Ground crumb with silica partitioning agent. Good solubility for use in adhesive applications.
1411	38	N/A	N/A	0.1	-19	H	Very fine crosslinked powder ideal for phenolic resin modification. Widely used in friction products. Contains talc partitioning agent.
1432	33	75-90	2,000-10,000	9.5	-25, -35	C	Used in adhesives and coatings. Contains a solution vinyl resin partitioning agent.
1442	33	75-90	2,000-10,000	9.5	-25, -35	C	Crumb rubber with talc partitioning agent. Used in coal tar and asphalt modification.
1492P80	32	70-85	N/A	1	-28	C	Non-crosslinked coarse powder ideal for rubberized gaskets and packing. Contains talc partitioning agent. Meets many FDA applications.
1472X	27	22-35	100-1,500	9.5	-18, -31	C	Carboxylated nitrile crumb, used in epoxy modification, for adhesives and composites. Contains talc partitioning agent.

Zealloy® Modifiers For Thermoplastics

Product Grade	% ACN	Mooney Viscosity[2]	Specific Gravity	Median Particle Size (mm)	TG, (°C) Typical Value	Partitioning Agent	Special Properties / Applications
1422	33	N/A	0.98	0.1	-26	Mixed	Very fine crosslinked powder used as a flexibilizer for PVC compounds.
1422x14	33	53-68	0.98	2.5	-26	Talc	Pre-crosslinked coarse powder modifier for PVC and ABS which offers excellent UV and thermal resistance.

DuoMod® Tougheners

Product Grade	Median Particle Size (mm)	TG, (°C) Typical Value	Viscosity (cps)	% Solids	Special Properties / Applications
DP5045F	20	-6	N/A	N/A	Crosslinked, carboxyl-functional elastomer in fine powder form designed for toughening epoxy resins used in high-performance composites.

1 Measured on the base nitrile portion.
2 Measured on the rubber portion.

Nipol® and Sivic® Polyblends and Pre-plasticized Nitrile Elastomers

Product Grade	NBR/PVC Ratio	% ACN[1]	Mooney Viscosity	Specific Gravity	Type[3]	Special Properties / Applications
Nipol Types						
DN508SCR	70/30	38	40-50[4]	1.07	PB	Improved ozone resistance and physical property version of P-70.
P70	70/30	33	55-70	1.07	PB	A 70/30 fully fluxed nitrile-PVC blend. Provides outstanding ozone resistance. Used in cable jackets, hose and shoe soles.
1082V	N/A	34	30-45	0.98	PP	Used for soft rolls and other low durometer goods. Contains 50 phr DIDP plasticizer.
DN171	70/30	30	66-81	1.06	PB	A fully fluxed NBR/PVC blend with improved ozone and abrasion resistance. Used in hose covers, shoe soles and cable jackets.
Sivic[2] Types (All Sivic types are mechanically blended, fully fluxed, and screened for a high degree of purity and uniformity.)						
Z760	70/30	45	49-61[4]	1.07	PB	Highest ACN content for maximum fuel resistance.
Z740	70/30	41	45-57[4]	1.06	PB	High ACN content for improved fuel resistance in automotive applications.
Z730	70/30	33	66-78	1.06	PB	Medium ACN, high-viscosity base polymer for improved physical properties and good extrudability. Used for industrial cable and hose.
Z730M60	70/30	33	56-68	1.06	PB	A lower-viscosity version of Z730 for faster processing.
Z711	70/30	28	62-74	1.06	PB	Low ACN base polymer, good extrudability and cold flex properties. Used for industrial and automotive cable and hose applications.
Z711LV	70/30	28	57-69	1.06	PB	A low-viscosity version of Z711 for faster processing.
Z700PX	70/30	26	59-71	1.06	PB	Carboxylated NBR base polymer. Improved abrasion resistance for printing rolls, conveyor belts and shoe soles.
Z702	70/30	23	61-73	1.06	PB	Lowest ACN content for improved cold flexibility. Automotive and Industrial cable, hose and belt applications.
Z620	60/40	33	48-58[4]	1.09	PB	Fuel-, ozone- and fire-resistant blend for automotive and general-purpose cable, belting and hose applications.
Z530	50/50	33	55-65[4]	1.13	PB	Improved fuel, ozone and fire resistance for hose covers, cable jackets, conveyor belts and cellular goods.
Z8401	80/20	33	28-38	1.04	PB/PP	A pre-plasticized blend with 40 phr DINP and 10 phr silica. Designed for low to medium durometer applications.
Z8901	80/20	33	8-16	1.02	PB/PP	Additional plasticizer at 90 phr DINP with 10 phr silica for very low durometer applications.
Z2710	60/40	33	16-26	1.04	PB/PP	Pre-plasticized with 70 phr DINP. Excellent for low durometer applications such as soft printing rolls.

1 Measured on the base nitrile portion.
2 Sivic is a registered trademark of Sidiac, Touvre France. Reprinted by permission.
3 PB=Polyblend PP=Pre-plasticized.
4 MS (1+4) @ 100°C.

Zetpol® Hydrogenated Nitrile Elastomers

Product Grade	% ACN	Mooney Viscosity	Specific Gravity	% HYD	Iodine Number	Special Properties / Applications
0020	50	58-72	1	91	23	Maximum fuel and solvent resistance. Excellent performance in flex fuel and MTBE.
1000L	44	58-72	0.98	98	7	Low Mooney polymer for transfer or injection molding for the fuel and oil field industries. FDA compliance.
1010	44	78-92	0.98	96	10	For fuel-resistant hoses, diaphragms and seals. Automotive and industrial refrigerant applications. FDA compliance.
1020	44	71-85	0.98	91	24	Same as Zetpol 1010, except for lower saturation level allowing for sulfur curing. FDA compliance.
1020L	44	47-67	0.98	91	24	Lower Mooney version of Zetpol 1020. Excellent for transfer or injection molding for the oil industry.
2000	36	78-92	0.95	>99.5	7	For O-rings, gaskets, seals or oil field components requiring the best heat and ozone resistance. FDA compliance.
2000L	36	58-72	0.95	>99.5	7	Low Mooney version of Zetpol 2000. Excellent for transfer or injection molding. FDA compliance.
2000LL	36	40-60	0.95	>99.5	7	Ultra-Low Mooney version of Zetpol 2000. Excellent for transfer or injection molding. O-rings, seals, gaskets, blow-out preventers. FDA compliance.
2010	36	78-92	0.95	96	11	For O-rings, gaskets, seals or oil field components requiring the best balance of heat and compression set. FDA compliance.
2010H	36	>120	0.95	96	11	High Mooney version of Zetpol 2010. Offers excellent compression set. FDA compliance.
2010L	36	50-65	0.95	96	11	Low Mooney version of Zetpol 2010. Excellent for transfer or injection molding. FDA compliance.
2011L	36	53-63	0.95	94	18	For belts. Provides excellent balance between static heat resistance and dynamic hysteresis.
2020	36	71-85	0.95	91	28	For seals, rolls, belts and oil field components. Provides excellent balance between static heat resistance and dynamic hysteresis. FDA compliance.
2020L	36	50-65	0.95	91	28	Low Mooney version of Zetpol 2020. Excellent for transfer or injection molding. FDA compliance.
2030H	36	>110	0.95	85	37	Higher Mooney version of Zetpol 2030. Especially suited for dynamic oil field components. FDA compliance.
2030L	36	50-65	0.95	85	57	HNBR with highest level of unsaturation available. Provides excellent dynamic properties. Especially suited for rolls and dynamic oil field components. FDA compliance.
3310	25	60-100	0.97	95	15	Improved low-temperature performance (TR10 of -33°C) providing a good balance of oil and low-temperature resistance plus improved high-temperature capabilities.
4300	17	55-95	0.95	>99.5	10	Outstanding low-temperature matching 4310 with the heat resistance capability of a fully saturated HNBR. Designed for extreme service conditions and excellent fluid resistance.
4310	17	52-72	0.98	95	15	Excellent low-temperature-resistant TR10 of –36°C for arctic applications. High-temperature properties improved to 160-170°C.
4320	17	50-70	0.98	91	27	Excellent low-temperature flexibility and an excellent balance of properties over a wide variation of temperatures.
PBZ-123	44	71-91	1.08	91	24	Zetpol 1020 polyblend with PVC to provide an ideal material for fuel hoses and diaphragms.

Chemisat® HNBR Latex

Product Grade	% ACN	Total Solids %	Special Properties / Applications
LCH-7302X	38	32	Ionic dispersion of a hydrogenated acrylonitrile butadiene latex. Requires a sulfur curing system to develop optimum properties that render it resistant to hydrocarbons, oils and plasticizers.
LCH-7272	38	32	Ionic dispersion of a hydrogenated carboxylated acrylonitrile butadiene latex. Contains a bound antioxident for added heat resistance. Requires a sulfur curing system to develop optimum properties that render it resistant to hydrocarbons, oils and plasticizers.

Zeoforte® Modified Hydrogenated Nitrile Elastomers

Product Grade	% ACN[1]	Mooney Viscosity	Specific Gravity	% HYD[1]	Iodine Number[1]	Special Properties / Applications
ZSC 2295CX	36	80-110	1.2	91	28	Zetpol 2020 modified with zinc oxide and methacrylic acid for outstanding tensile, tear, abrasion and high elongation at high hardness (Shore A>95).
ZSC 2295L	36	60-100	1.2	91	28	Low Mooney version of ZSC 2295CX for improved processing.
ZSC 2395	36	60-80	1.2	85	57	Zetpol 2030L modified with zinc oxide and methacrylic acid for outstanding tensile, tear, abrasion, and high elongation at high hardness (Shore A>95). Excellent strength and durability with low hysteresis for roll covers and other high-load applications.
ZSC 4195CX	17	60-90	1.25	95	15	Zetpol 4310 modified with zinc oxide and methacrylic acid for improved low-temperature performance.

HyTemp®/Nipol® AR Polyacrylate Elastomers

Product Grade	% Volume Swell[2]	Gehman[3] *T*100 (°C)	Mooney Viscosity	Specific Gravity	Curesite	Special Properties / Applications
4051	11%	-18	46-58	1.1	Dual	Fast cure rate, low compression set and maximum oil resistance. Dual curesite.
4051EP	11%	-18	35-47	1.1	Dual	Easy-processing version of HyTemp 4051.
4051CG	11%	-18	25-37	1.1	Dual	Cement-grade version of HyTemp 4051.
4451CG	11%	-18	25-40	1.1	Dual	Particulate version of HyTemp 4051CG. Suitable for adhesives, caulks, sealants and binders.
4052	17%	-32	32-40	1.1	Dual	Improved low-temperature properties with slightly less oil resistance than 4051 types. Excellent compression set.
4052EP	17%	-32	20-35	1.1	Dual	Easy-processing version of HyTemp 4052.
4065	16%	-30	27-45	1.1	Dual	Excellent oil, heat and compression set resistance with good low-temperature properties.
4053EP	24%	-42	23-31	1.1	Dual	Excellent balance of low-temperature properties and oil resistance.
4054	63%	-41	22-34	1.1	Dual	Moderate oil resistance with -40°C low-temperature service.
4454	63%	-41	22-37	1.1	Dual	Particulate version of HyTemp 4054.
AR 71	11%	-18	42-54	1.1	Chlorine	175°C high-temperature service and excellent oil resistance.
AR 715	15%	-24	27-39	1.1	Chlorine	Improved low temperature and excellent oil resistance.
AR72LF	22%	-28	28-36	1.1	Chlorine	Excellent balance of low temperature and oil resistance. Easy processing.
AR72HF	+20%	-28	43-53	1.1	Chlorine	Good balance of heat and oil resistance.
AR 74	28%	-40	25-35	1.1	Chlorine	Excellent balance of low temperature (-40°C) and oil resistance.
PV-04	45%	-30	25-40	1.1	Proprietary	Peroxide-curable elastomer suitable for O-rings, seals and gaskets. Also used for binders, adhesives, caulks and plastics modification.

1 Measured on base Zetpol.
2 IRM 903 oil, 70 Hr. @ 150°C.
3 On a nominal 65 Shore A, non-plasticized compound.

HyTemp®/Nipol® AR High-Performance Polyacrylate Elastomers

Product Grade	% Volume Swell[1]	Gehman[2] *T*100 (°C)	Mooney Viscosity	Specific Gravity	Curesite	Special Properties / Applications
AR12	30%	-30	28-38	1.1	Proprietary	Optimized for improved long-term heat and compression set resistance over traditional acrylates with good low-temperature properties.
AR13FR	5%*	-30*	30-40*	1.1	Proprietary	Fuel-resistant version of HyTemp AR12. *New product - target properties.*
AR14	27%	-40	28-38	1.1	Proprietary	Improved low-temperature version of AR12.
AR22	24%	-25	44-54	1.1	Proprietary	Optimized for improved tensile strength and oil resistance over traditional acrylates.
AR212HR	+24%*	-25	35-45*	1.1	Proprietary	Optimized for extrusion applications. Excellent scorch safety and heat resistance. *New product - target properties.*
AR214	30%*	-40	30-40*	1.1	Proprietary	Optimized for extrusion applications. Low-temperature version of AR212HR. *New product - target properties.*

HyTemp® Polyacrylate Curatives

Product Grade	Specific Gravity	Chemical Name	Special Properties / Applications
NS-70	1.03	Sodium Stearate Dispersion	Standard cure agent for HyTemp® 4050, 4060 and AR70 series. (70% active)
NPC-50	1.03	Quaternary Ammonium Compound	Non-post cure agent used with HyTemp® 4050 and 4060 series (50% active)
SC-75	1.01	Amine Cure Package	Fast cure package for HyTemp® 4050 and 4060 series. (75% active)
SR-50	1.03	Proprietary Urea Compound	Retarder used with HyTemp® 4050 and 4060 series. (50% active)
ZC-50	1.02	Triazine Cure Package	Fast cure package for HyTemp® AR70 series. (50% active)
ZFC-65	1.32	Triazine Cure Dispersion	Zisnet F dispersion for HyTemp® AR70 series. (65% active)

Zeotherm® Thermoplastic Vulcanizates (TPVs)

Product Grade	Color	Hardness (Shore A)	Special Properties / Applications
100-60B	Black	60 pts	Lowest durometer Zeotherm grade. Suitable for injection molding.
100-70B	Black	75 pts	High-performance thermoplastic vulcanizate (TPV) designed to survive long-term exposure in -40°C to 175°C air and oil. Ideal for automotive and industrial applications where there is exposure to heat and/or oil. Designed for high-speed thermoplastic processing injection-molding. Fully recyclable.
100-80B	Black	85 pts	Higher durometer grade of Zeotherm 100-70B.
100-90B	Black	91 pts	Higher durometer grade of Zeotherm 100-70B.
120-90B	Black	90 pts	Optimized for small blow-molded applications, including CVJ boots.
130-90B	Black	95 pts	Optimized for blow-molded and extruded parts, including clean air intake ducts, charge air cooler ducts and hose.
131-90B	Black	95 pts	Higher-heat resistant version of Zeotherm 130-90B.

1 IRM 903 oil, 70 Hr. @ 150°C.
2 On a nominal 65 Shore A, non-plasticized compound.

Hydrin® Polyepichlorohydrin Elastomers

Product Grade	Mooney Viscosity	Specific Gravity	TG, (°C)	Special Properties / Applications
H[1]	40-80	1.37	-21	Outstanding permeation resistance to helium, hydrogen, nitrogen, air and carbon dioxide.
H1100	52-65	1.35	-26	Outstanding permeation resistance to helium, hydrogen, nitrogen, air and carbon dioxide. Can be sulfur or peroxide cured.
C2000	90-102	1.28	-41	Fuel pump diaphragms, hose, coated fabrics and vibration mounts. Can also impart antistatic properties to plastics.
C2000 L	65-75	1.28	-41	Low-viscosity version of Hydrin C2000.
C2000 LL	53-65	1.28	-41	Lower-viscosity version of Hydrin C2000.
C2000 XL	40-52	1.28	-41	Lowest-viscosity version of Hydrin C2000 for optimum injection flow.
T3000	80-94	1.28	-43	Terpoylmer of ECH/EO/AGE. Sulfur curable and can be blended with all other elastomers.
T3000 L	65-79	1.28	-43	Low-viscosity Hydrin T3000.
T3000 LL	50-64	1.28	-43	Lowest-viscosity version of Hydrin T3000 for optimum injection flow.
T3100	63-77	1.30	-36	Highest AGE-content terpolymer for enhanced sour gasoline and ozone resistance.
T3102	80-100	1.30	-38	Highest ECH-content terpolymer for improved heat and permeation resistance.
T3105	70-80	1.28	-41	High ECH- and AGE- content terpolymer for improved heat and ozone resistance.
T3106	53-67	1.28	-48	Highest EO-content terpolymer for best low-temperature properties and enhanced electrostatic dissipative properties. Used in low-temperature hoses and laser printer rolls.
TX3	51-65	1.28	-48	Highest EO-content terpolymer with improved processing characteristics. Enhanced electrostatic dissipative properties. Designed for laser printer rolls.
T5010	75-100	1.27	-40	Has the best mill release and processing. Can be sulfur or peroxide cured.
TX7	TBD	1.21	-49	Can provide softer roll compounds. Also designed to process better on the mill and during extrusion. Inherently static dissipative.
T6000	60-80	1.07	-60	Outstanding balance of low- and high-temperature resistance. Targeted applications include dynamic mounts and ones requiring long flex life.

Zisnet® Polyepichlorohydrin and Polyacrylate Curing Agents

Product Grade	Specific Gravity	Chemical Name	Special Properties / Applications
F-PT	1.56	Triazine Compound	A general purpose curative for polyepichlorohydrin and polyacrylate rubber, used in place of ETU in Hydrin compounds. Zisnet F-PT gives improved heat resistance, less mold fouling and reduced toxicity. Oil treated to reduce dusting.

1 Available in 10 pt Mooney ranges.

NIPOL® POLYISOPRENE ELASTOMERS

Product Grade	Cis-1.4%	Mooney Viscosity	Specific Gravity	AO Type	Special Properties / Applications
IR2200	98	75-90	0.91	NS	Tires, belts, packings, seals, footwear and other extruded and molded mechanical goods. Can be blended with other rubbers such as NR, SBR, BR, etc., and is applicable to transparent and light-color products.
IR2200L	98	65-80	0.91	NS	Low Mooney version of IR2200.

QUINTONE® HYDROCARBON RESIN

Product Grade	Type	Softening Point (°C)	Color (G.N.)	Acid Value (mgKOH/g)	Melt Viscosity (mP2.s)	Special Properties / Applications
A100	C5	100	4	<0.1	240	General-purpose type, suitable for adhesives based on natural rubber.
K100	C5	101	4	<0.1	170	Standard type, suitable for adhesives based on SIS.
R100	C5	96	4	<0.1	120	Standard type, suitable for adhesives based on SIS.
D100	C5/C9	99	4	<0.1	150	Having improved compatibility with SBR and EVA; suitable for adhesive tapes and hot-melt adhesives.
S195	C5/C9	94	3	<0.1	100	Suitable for adhesives based on SIS.
N180	C5/C9	80	4	<0.1	70	Giving excellent tackiness and giving excellent low-temperature properties, especially suitable for hot-melt adhesive based on SIS.
U190	C5/C9	89	5	<0.1	80	Suitable for adhesives based on SIS; giving well-balanced performance to adhesive.
C200H	C5	101	4	1.7	190	Having excellent flowability, heat stability and colors; suitable for hot-melt road marking.
D200	C5/C9	102	7	17	180	Giving characteristic properties for various uses.
E200SN	C5/C9	102	4	1.5	210	Suitable for rubber-type adhesive, giving excellent adhesion.
P195N	C5/C9	94	1	<0.1	100	Having excellent clear color grades.

QUINTAC® SIS RUBBER

Product Grade	Styrene Content (%)	Diblock Content (%)	Melt Index (g/10min)	Melt Viscosity (mP2.s)	Special Properties / Applications
3421	14	26	10	550	Standard grades for hot-melt PSA.
3620	14	12	9	600	Standard grades for hot-melt PSA.
3433N	16	56	12	500	Special grades for PSA (To give high carbon sealability).
3520	15	78	7	670	Special grades for PSA (To give high carbon sealability).
3450	19	30	15	240	Radial grades for HMA.
3451	19	30	12	270	Radial grades for HMA.
3280	25	17	11	250	Standard grades for HMA.

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