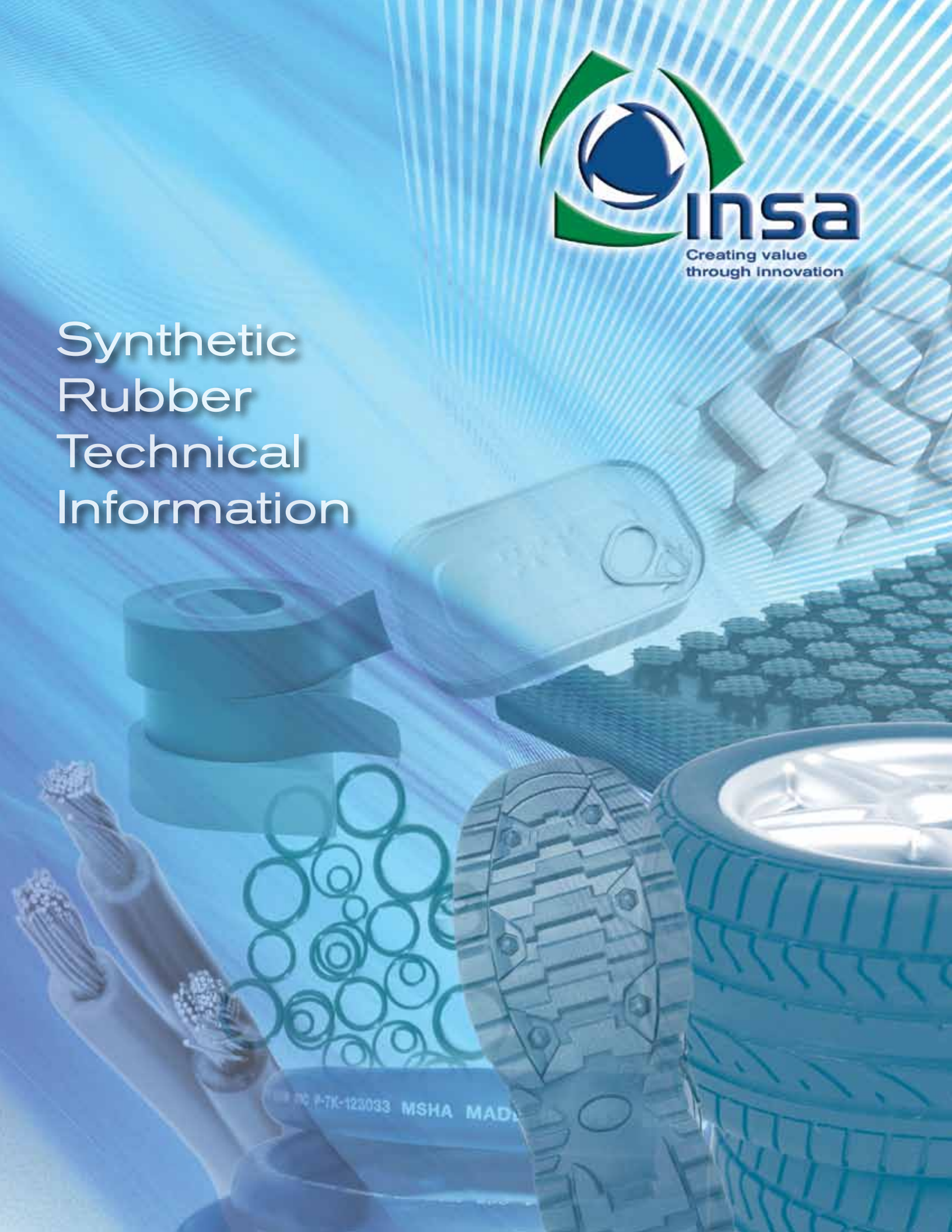




Synthetic Rubber Technical Information



MSHA MADE

Who Is INSA?

Industrias Negromex SA de CV (INSA) has more than 40 years of experience producing Synthetic Rubber. We are the only producer of emulsion synthetic rubber (ESBR) and Nitrile Butadiene Rubber (NBR) in Mexico and one of the leaders in the Americas. We are part of Grupo KUO; a division of DESC; one of the most important conglomerates in Mexico.

Our plant is strategically located in one of the most important industrial corridors in the Gulf Coast of Mexico in the City of Altamira, Tamaulipas and has a current capacity of 150,000 metric tons per year.

INSA was the first privately held company in Mexico to have its own Petrochemical Terminal to receive and storage the main raw materials used in the manufacturing of Synthetic Rubber. During the last 10 years, **INSA** had experienced changes and transformations in their facilities and processes which have allowed significant improvements in developing and innovation of products which resulted in tangible benefits to our markets and customers. **INSA** is conscious of its responsibility towards the community and its people, and operates under rigorous safety and environmental conditions.



Our wide variety of products are used in applications, such as tires, footwear, industrial rubber goods, adhesives, sealants, food grade, chewing gum, non-woven materials, paper coatings and textile to mention some.

Through the combination of three fundamental factors: excellence in quality, service and leading technology, **Industrias Negromex** is leader in Mexico, an important player in niche applications, and a recognized supplier worldwide.

Introduction To Our Products– SBR

Hot SBR Non-Crosslinked

Are used in the manufacture of a variety of adhesives and sealants. These linear, non-cross-linked polymers produce an excellent tack for bonding, coating and sealing applications. Product is available in several grades, providing a wide range of solubility and viscosity, cohesive strength and holding power can be achieved.

Hot SBR Crosslinked

Produce adhesive and sealants with a non-stringy, buttery consistency. They are particularly useful for caulking compounds, mastics and sprayable adhesives.

Besides the conventional bale form, several of these polymers are available in crumb form. These phase dissolving, low solution viscosity crumb polymers can help to reduce mixing time, use less solvent and coat faster.

High Styrene Masterbatch

The High Styrene Masterbatch is excellent for improving hardness and stiffness in floor tiles, shoe soles, rolls sporting goods, extrusion and hard rubber compounds. They provide reinforcement to polybutadiene, polychloroprene, EPDM, EVA, NBR, SBR, IR, and natural rubber, increasing hardness, rigidity, abrasion, and tear resistance.

Cold SBR

Is available in both non oil extended and oil extended types for tires and general rubber industry usage.

Cold SBR reinforced with carbon black

Offers excellent physical properties and outstanding processing characteristics due to the complete dispersion of the carbon black and processing oil in the polymer. Is recommended for use in tires, tread rubber and molded and extruded mechanical goods.



SBR Summary Application by Type

Emulprene Cold SBR Grades	Bound Sty %	ML		Tires	Sponges	Seals	Hose	Footwear	Rolls	Wire & Cable	Custom Mix	Adhesives	Plastic Modification	Mechanical Goods	Friction	Chewing Gum	Textile	Carpet	Paper coating	Paper Saturation
E1500A	23.5	52																		
E1502A	23.5	52																		
E1502	23.5	52		■		■	■	■						■	■					
E1509	23.5	36			■	■	■	■							■					
E10140	21	24.5		■	■									■						
Emulprene High Styrene Resin																				
E260	64	****		■				■												
E261	66	****		■				■												
Emulprene Cold Oil Extended SBR Grade																				
Emulprene Cold Oil Extended SBR Grade	STYRENE, %	ML	OIL																	
E1712	23.5	48	HAO	■	■		■	■						■						
E1721	40	54	HAO	■	■		■	■						■						
E1778	23.5	48	NAPH	■	■	■	■	■	■					■						
Emulprene SBR Latex Grades																				
Emulprene SBR Latex Grades	pH	Brookfield viscosity (cps)	Solids content (%)																	
A1084-E	10.0-11.0	****	39-41												■					
A1215-E	8.1-8.9	300 MAX	43-45																	■
A1372-R	8.8-9.2	500 MAX	52-53													■	■			
A1531-E	7.0-8.0	500 MAX	49-51																■	
A1919-NC	8.0-9.0	220 MAX	45-49													■	■			
Emulprene Hot SBR Grades																				
Emulprene Hot SBR Grades	STYRENE, %	ML	CROSSLINK																	
E1006	23.5	49						■			■			■						
E1009L	23.5	47	LOW					■			■		■							
E1009L2	23.5	47	MED								■									
E1009H	23.5	62	HIGH								■									
E1011	23.5	54		■							■									
E1012	23.5	115	MED								■									
E1013	43.5	45									■									
E1028A	47.5	58									■									
E10101	43.5	70	HIGH								■									
IG1027	22-25	47-57									■				■					
IG1028	45-50	52-64									■				■					
Emulprene Carbon Black Master Batch																				
Grade	Black Type	Black PHR	Oil PHR																	
Emulblack 1606R	N330	52	10	■							■		■							
Emulblack 1606K	N330	52	10	■							■		■							
Emulblack 1848	N339	82.5	63	■							■		■							
Emulblack 3651	N234	52	10	■							■		■							
Emulblack 5564	N234	52	10	■							■		■							

Cold Polymerized
Hot Polymerized
Precrosslinked

Oil Extended
Latex
Carbon Black Master Batch

Emulprene Cold SBR Grades

Grade	Description	Uses	Styrene	ML 1+4@100°C
E1500A	Styrene-butadiene copolymer, cold polymerized using a rosin acid soap. Previously to the alum-acid coagulation, a non-staining stabilizer is added in the manufacturing process. The product does not contain nitrosamine promoters.	Suitable for molded and extruded mechanical goods and sealants applications	23.5	52
E1502A	Styrene-butadiene copolymer, cold polymerized using fatty acid and rosin acid soap. Previously to the alum-acid coagulation, a non-staining stabilizer is added in the manufacturing process. The product does not contain nitrosamine promoters.	Suitable for natural rubber in wide range of compounds, offering advantages of light color, uniformity and low levels of impurities. It's good flow characteristics produce improvements in mixing and moulding behavior, It is used for food and pharmaceutical packaging and seals, baby bottle teats and health care, adhesives, chemical derivatives of rubbers. E1502A is manufactured to the highest standards but special requirements apply to certain sensitive applications such as food contact and pharmaceuticals. Reference should always be made to local legislation that regulates these applications	23.5	52
E1502	Styrene-butadiene copolymer, cold emulsion polymerized with fatty acid and rosin acid as emulsifier, coagulated by salt-acid system and stabilized with a non-staining antioxidant.	Widely used as raw material in tire, shoe sole and in various industrial products.	23.5	52
E1509	Styrene-butadiene copolymer, cold emulsion polymerized with fatty acid as emulsifier, coagulated by salt-acid system and stabilized with a non-staining antioxidant.	Widely used in sponge, heel and shoe sole formulations as well as in a vast array of industrial products	23.5	36
E10102	Styrene-butadiene copolymer, cold emulsion polymerized with fatty acid and rosin acid emulsifier, coagulated by salt-acid system and stabilized with a non-staining antioxidant.	Widely used as raw material in tire and in various industrial products.	16	52
E10140	Product manufactured by mixing a cold styrene-butadiene copolymer containing 5.5% bound styrene (80%) with high styrene rosin latex (20%), coagulated by salt - acid system and stabilized with a non-staining antioxidant.	The masterbatch provides the user with an advantage through ease of processing and improved product quality, and it provides the stiffening effect to the final product. Uses: tires, footwear, sponges, other mechanical goods, etc.	21	24.5

Emulprene Cold Oil Extended SBR Grade

Grade	Description	Uses	Styrene	ML 1+4@100°C
E1712	Is a copolymer styrene - butadiene cold emulsion polymerized used fatty acid as emulsifier, coagulated by salt-acid system and it is extended utilizing aromatic oil.	Used in tire formulations and in a variety of industrial products due to its excellent adhesion and processing properties.	23.5	48

Emulprene Cold Oil Extended SBR Grade

Grade	Description	Uses	Styrene	ML 1+4@100°C
E1721	High bound styrene, cold SBR copolymer, used fatty and rosin acid as emulsifier, coagulated by salt-acid system and it is extended utilizing aromatic oil and staining antiozonant like stabilizer.	Recommended for tires , treads and inner liners formulations and in a variety of industrial products due to its excellent low air permeability and good traction characteristics.	40	54
E1778	is a copolymer styrene-butadiene, cold emulsion polymerized used fatty acid as emulsifier, coagulated by salt – acid system and it is extended utilizing naphthenic oil.	Used in the manufacture of tires and industrial products for its excellent processing properties.	23.5	48

Emulprene Hot SBR Grades

Grade	Description	Uses	Styrene	ML 1+4@100°C
E1006	Hot emulsion styrene– butadiene copolymer, polymerized using a fatty acid emulsifier and coagulated with salt-acid. It is a very light color product stabilized with a non-staining antioxidant.	Recommended for light colored; for adhesives, tire white sidewalls, transport and transmission belts, sponge materials, sporting goods, flooring, colored shoe soles and heels.	23.5	49
E1009L	Hot emulsion styrene-butadiene copolymer, slightly cross-linked with divinylbenzene. It is polymerized using fatty acid as emulsifier , coagulated with salt acid and stabilized with a non-staining antioxidant.	Is a lower gel version of the E1009H it also reduces mill shrinkage and swelling in molding improving dimensional stability and outstanding surface texture of finished products. It is also widely used in sealants and adhesives giving good balance between adhesive and cohesive properties.	23.5	47
E1009L2	E1009L2 is hot emulsion styrene-butadiene copolymer, slightly cross-linked with divinylbenzene. It is polymerized using fatty acid as emulsifier , coagulated with salt acid and stabilized with a non-staining. antioxidant.	E1009L2 is a medium gel version of the E1009H it also reduces mill shrinkage and swelling in molding improving dimensional stability and outstanding surface texture of finished products. It is also widely used in spray adhesive and sealants.	23.5	47
E1009H	Highly cross-linked, hot emulsion styrene-butadiene copolymer with divinyl benzene. It is polymerized using fatty acid as emulsifier, coagulated with salt-acid and stabilized with a non-staining antioxidant.	Used as processing to reduce mill shrinkage and swelling in molding, extrusion and calendaring operations improving dimensional stability and surface texture of finished products. It is also widely used in sealants and adhesives giving good balance between adhesive and cohesive properties.	23.5	62
E1011A	Hot emulsion styrene-butadiene copolymer using rosin acid as emulsifier and coagulated with salt-salt acid. It is very light color product stabilized with a non-staining antioxidant.	Gives excellent green tack and adhesive properties with good balance of mechanical strength. Is recommended for molded and extruded mechanical goods, adhesives, caulks and sealants.	23.5	54
E1012	High viscosity hot emulsion styrene– butadiene copolymer, polymerized using a fatty acid emulsifier and coagulated with salt-acid. It is a very light color product stabilized with a non-staining antioxidant.	Particularly useful as a binder for fibrous materials and adhesives where increased cohesive strength is desired.	23.5	115
E1013	Styrene-butadiene copolymer, hot polymerized using a fatty acid soap. Previously to the alum-acid coagulation, a non-staining stabilizer is added in the manufacturing process.	Suitable for adhesive applications it is particularly used for can-sealing compounds, tire liners, mechanical goods, including auto mounts, and household products.	43.5	45

Grade	Description	Uses	Styrene	ML 1+4@100°C
E1028A	is a high styrene, hot emulsion styrene-butadiene copolymer using fatty acid as emulsifier and coagulated with salt-acid. It is stabilized with a non-staining antioxidant. The product does not contain nitrosamine promoters.	This grade is exceptionally light colored. It features high green strength, low air permeability and excellent flow properties, it is recommended for use in adhesive, sealants, tire liners, mechanical goods and household products.	47.5	58
E10101	Cross-linked emulsion styrene-butadiene copolymer with divinyl-benzene, using a mix of rosin and fatty acid as emulsifier. It is coagulated with Aluminum-acid and stabilized with a non-staining antioxidant. It is produced in accordance with good manufacturing practices and complies with FDA 21 CFR §175.300, §177.1210 and §178.3910 for use in food contact applications.	Gives excellent dimensional stability to compounds, reduces die swell and shrinkage in extruded products. It is also recommended for improving cohesive strength in adhesives and sealants which will be in contact with food or beverages.	43.5	70
IG1027	IG1027 is a hot emulsion styrene-butadiene copolymer using vegetal fatty acid as emulsifier and coagulated with salt-acid. It is stabilized with BHT antioxidant. The product complies with U. S. FDA regulation 21 CFR §172.615 referenced to SBR used for Chewing Gum, 21 CFR 177.2600 Indirect food additives: Polymers. It meets the requirements in the Food Chemical Codex for 75/25 type SBR.	IG1027 is specially designed for chewing gum applications giving softer chew	22-25	47-57
IG1028	IG1028 is a high styrene, hot emulsion styrene-butadiene copolymer using vegetal fatty acid as emulsifier and coagulated with salt-acid. It is stabilized with BHT antioxidant. The product complies with U. S. FDA regulation 21 CFR §172.615 referenced to SBR used for Chewing Gum, 21 CFR 177.2600 Indirect food additives: Polymers. It meets the requirements in the Food Chemical Codex for 50/50 type SBR.	IG1028 is specially designed for bubble gum applications, giving firmer chew and larger bubbles.	45-50	52-64

Emulprene High Styrene Resin

Grade	Description	Uses	Styrene	ML 1+4@100°C
E260	E260 is a self-reinforcing emulsion rubber due to its high styrene content. The design of the elastomer allows for excellent processability during mixing and the special antioxidant used in its manufacture make it non-staining.	E260 is used as a reinforcing agent that does not alter the final products specific gravity while increasing the hardness, rigidity, abrasive and tear resistance as well as improving the flexibility of vulcanized shoe-soles. This product can also be used as raw material in the manufacture of tires.	64	****
E261	E261 is a self-reinforcing emulsion rubber due to its high styrene content. The design of the elastomer allows for excellent processability during mixing and the special antioxidant used in its manufacture make it non-staining.	E261 is used as a reinforcing agent that does not alter the final products specific gravity while increasing the hardness, rigidity, abrasive and tear resistance as well as improving the flexibility of vulcanized shoe-soles. This product can also be used as raw material in the manufacture of tires.	66	****

Emulprene SBR Latex Grades

Grade	Description	Uses	Solids Content (%)	pH	Brookfield viscosity (CPS)
A1084-E	Arlatex® 1084-E is an aqueous dispersion of styrene-butadiene copolymer. It is manufactured by emulsion polymerization.	Designed especially for gum base application. It can be used in chewing and bubble gum recipes.	39.0 - 41.0	10.0 - 11.0	****
A1215-E	Arlatex 1215-E is an aqueous dispersion of carboxylated styrene butadiene copolymer manufactured by emulsion polymerization	Used in those applications that require high rigidity and tenacity, as well as reliable resistance to water. It can be blended with resins in where it provides certain flexibility in the final finished one without affect in its resistance. The monomer ratio in the latex produces a rigid hand	43.0 45-0	8.1-8.9	300 MAX
A1372-R	Arlatex 1372-R is an aqueous dispersion of carboxylated styrene butadiene copolymer manufactured by emulsion polymerization	Especially designed for the manufacturing of carpet and rug backings and as binder for fibers and fabrics. It can be used in single or double pan systems, in frothed or non-frothed process. Medium hand	51.0 - 53.0	8.8-9.2	500 MAX
A1531-E	Arlatex 1531-E is an aqueous dispersion of carboxylated styrene butadiene copolymer manufactured by emulsion polymerization	Especially designed for paper and cardboard coatings where it is required high adhesiveness to join mineral loads.	49.0 - 51.0	7.0-8.0	500 MAX
A1919-NC	Arlatex 1919-NC is an aqueous dispersion of carboxylated styrene butadiene copolymer manufactured by emulsion polymerization	Especially designed for the manufacturing of carpet and rug backings and as binder for fibers and fabrics. It can be used in single or double pan systems, in frothed or non-frothed process. Soft hand	45.0 -49.0	8.0-9.0	220 MAX

Carbon Black Master Batch

Grade	Description	Uses	Black Type	UMS 1+4@100°C
Emulblack 1606R	Emulblack 1606 is a general purpose SBR oil/black masterbatch based on a cold polymerized polymer. SBR 100 pts HAO 10 pts Carbon Black N330 52 pts	Offers excellent physical properties and outstanding processing characteristics due to the complete dispersion of the carbon black and processing oil in the polymer. Is recommended for use in tires, tread rubber and molded and extruded mechanical goods.	N330	60+/-10
Emulblack 1606K	Emulblack 1606K is a general purpose SBR oil/black masterbatch based on a cold polymerized polymer. SBR 100 pts HAO 10 pts Carbon Black N330 52 pts	Emulblack 1606K offers excellent physical properties and outstanding processing characteristics due to the complete dispersion of the carbon black and processing oil in the polymer. Is recommended for use in tires, tread rubber and molded and extruded mechanical goods.	N330	50+/-10
Emulblack 1848	Emulblack 1848 is a general purpose SBR oil/black masterbatch based on 1712 latex and N339 carbon black. SBR 100 pts HAO 62.5 pts Carbon Black N339 82.5 pts	Designed especially for tread rubber and extruded goods this masterbatch produces compounds with excellent extrusion characteristics, abrasion resistance and tread wear.	N339	55+/-10
Emulblack 3651	Emulblack 3651 is black masterbatch based on cold SBR and N234 carbon black SBR 100 pts HAO 10pts, Carbon Black N234 52pts	Emulblack 3651 offers excellent physical properties high quality tire treads, cold retreading, conveyor belts and molded and extruded mechanical goods.	N234	60+/-10
Emulblack 5564	Emulblack 5564 is black masterbatch based on cold SBR and N234 carbon black SBR 100 PTS HAO 10 PTS Carbon Black N234 52 PTS	Offers excellent physical properties high quality tire treads, cold retreading, conveyor belts and molded and extruded mechanical goods.	N234	TBD

Introduction To Our Products– NBR

Paracril NBR

Paracril NBR grades are produced by cold and hot polymerization process. The cold process yields linear polymers with good processing characteristics and solubility in polar solvents. The hot polymerization process leads to more branching. Branching in the hot Paracril grades is more developed in the higher viscosity grades. The hot polymers offer improved green strength. Crosslinked Paracril NBR grades are unique in processing and function. They are produced by chemical crosslinking or conversion branched. The crosslinked grades have varying degrees of reduced mill shrink to as low as 5% versus linear grades of over 35% mill shrink. These grades offer benefits in thermoplastic modification for lower compression set and green strength improvement in thermoset recipes. Paracril 34PE40, a plasticizer extended grade, contains 50 parts of DOP in a high molecular weight NBR used in the production of low durometer products such as roll covers.

Paraclean NBR

Paraclean NBR has been developed to provide a low residue, fast curing grade of NBR. PARACLEAN grades are cold polymerized for best processing characteristics.

Paracril OZO

Paracril OZO is a fluxed blend of NBR and PVC. The most common ratio of NBR to PVC is 70/30. A higher PVC content of 40%

is used in applications such as sponge where very low densities can be achieved through the uniform expansion of the chemical foaming agent. Paracril OZO offers inherent resistance to ozone, good colorability, smooth surface appearance, abrasion resistance, processing ease, and flame resistance.

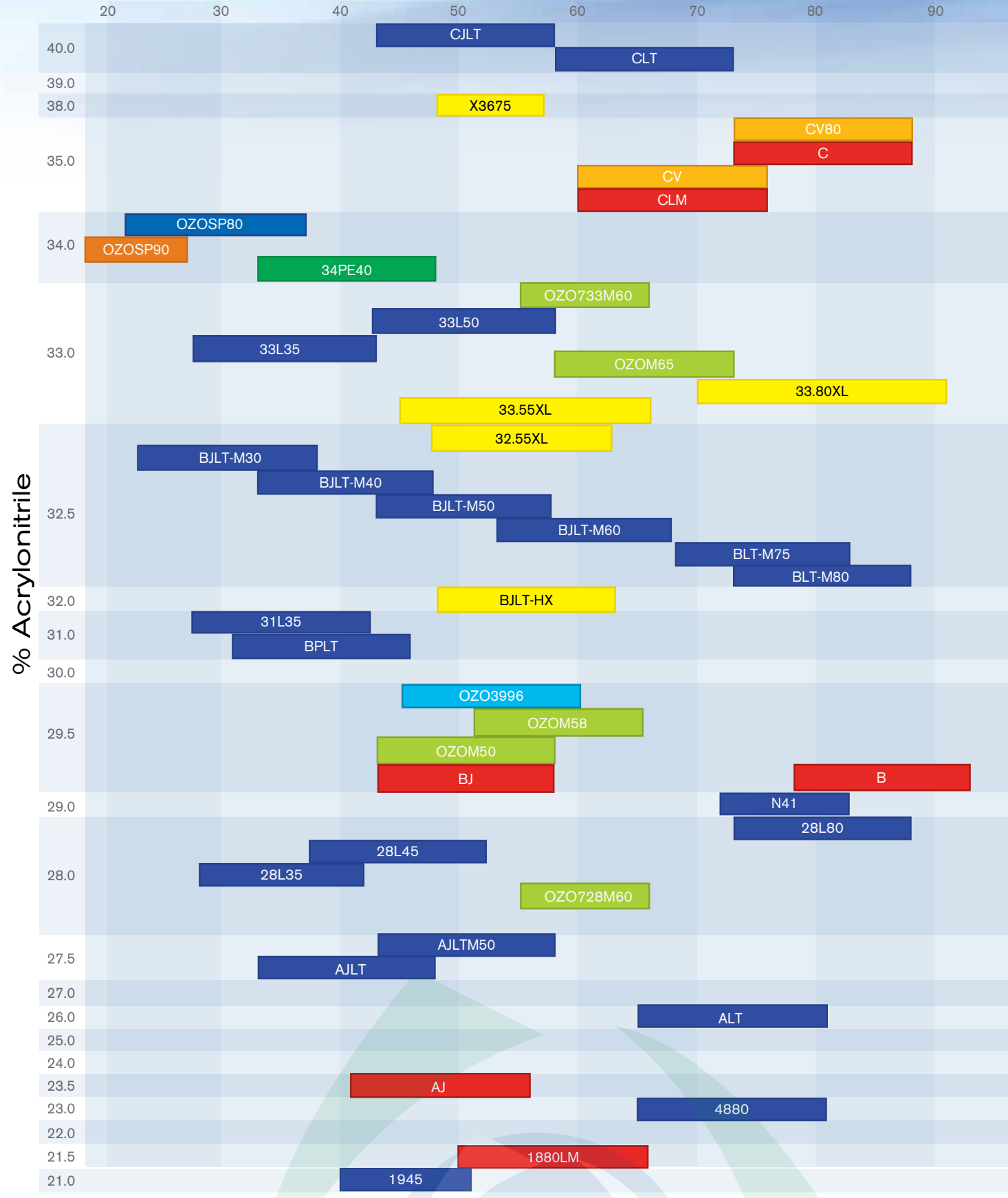
Plasticizer extended grades are also available that contain as high as 70 parts of DOP for low durometer rolls.

Paracril NBR Crumb and Powder Grades

Paracril CV and CV80 crumb grades have been available for many years. The addition of grinding equipment in 2006 has improved support for Crumb and Powder grades. Particulate products have primary application in thermoplastic modification, adhesives, and friction products. Linear and an expanded list of cross-linked grades are available with a variety of partitioning agents. Particle sizes vary from 0.6 mm to 12 mm. Crumb and powder products are packaged in 50 pound boxes to minimize agglomeration.



Mooney Viscosity (1 + 4 @ 100°C)



NBR Summary Application by Type

Grade	BAN, %	ML	Sponge	Seals	Hose	Footwear	Rolls	Wire & Cable	Custom Mix	Adhesives	Friction	Plastic Modification	Mechanical Goods
1945	19	45		■					■				
1880LM	21.5	58		■					■				■
4880	23	73		■					■				■
AJ	23.5	48		■					■				■
ALT	26	73		■	■				■				■
AJLT	27.5	40		■					■				■
AJLT M50	27.5	50			■								■
N41	29	78		■									■
B	29.5	85	■	■					■				■
BJ	29.5	50	■	■					■	■			■
BPLT	31	38		■	■		■		■				■
BLT-M80	32.5	80		■	■		■		■				■
BLT-M75	32.5	75	■	■	■		■		■			■	■
BJLT-M60	32.5	60		■					■			■	■
BJLT-M50	32.5	50		■	■	■	■		■	■		■	■
BJLT-M40	32.5	40		■	■	■	■		■			■	■
BJLT-M30	32.5	30	■	■	■				■			■	■
BJLT-HX	32	55		■	■				■				■
32.55XL	32.5	55										■	■
33.55XL	33	55										■	■
33.80XL	33	55								■		■	■
X3675	38	55										■	■
34PE40	34	40					■		■				■
C	35	80		■					■	■			■
CLM	35	68		■					■	■			■
CV	35	68							■				■
CV80	35	80							■				■
CLT	40	65		■	■				■				■
CJLT	40	50		■	■				■	■			■
Paraclean Grades													
28L35	28	35		■			■		■			■	■
28L45	28	45	■	■			■		■				■
28L80	28	80	■	■			■		■				■
31L35	31	35		■		■			■				■
33L35	33	35		■		■			■				■
33L50	33	50		■		■	■		■	■			■
OZO Grades													
M50	30	50			■	■		■	■				■
M58	30	58			■	■	■	■	■				■
M65	30	65			■	■		■	■				■
728M60	28	60			■			■	■				■
733M60	33	60			■			■	■				■
3996	30	52	■						■				■
SP80	34	29					■		■				■
SP90	34	21					■		■				■
Powder													
FP3380XC	33.80XL	High									■	■	
P3350CC2	33L50	No										■	
P3350CC	BJLT M50	No										■	
P3380CC	BLT M80	No										■	
P3380XP	33.80XL	High								■		■	
P7083P	32.55XL	Partial									■	■	
P7092P	33.55XL	High										■	
Crumb													
CV	CLM	No								■			
CV80	C	No								■			
C2977CC	N41	No											■
C3380CC	BLT M80	No								■		■	
P7083CR	32.55XL	Partial										■	

Cold Polymerized	DOP Extended	Fluxed blends 60 NBR / 40 PVC	Powder
Hot Polymerized	Crumb Rubber	Prefluxe blend of 40 NBR / 60 PVC / 60 DOP	
Precrosslinked	Fluxed Blends 70 NBR / 30 PVC	Prefluxe blend of 60 NBR / 40 PVC / 70 DOP	

Cold Polymerized	Fluxed Blends 70 NBR / 30 PVC
Hot Polymerized	Fluxed blends 60 NBR / 40 PVC
Precrosslinked	Prefluxe blend of 40 NBR / 60 PVC / 60 DOP
DOP Extended	Prefluxe blend of 60 NBR / 40 PVC / 70 DOP
Crumb rubber	

Paracril® Nitrile Rubber Polymers

Grade	Description	Uses	%ACN Typical	ML-4@ 100°C Typical
1945	Cold polymerized Low acrylonitrile content for low temperature applications.	Low temperature resistant grade with good processing characteristics.	18.5	45
1880LM	Hot polymerized. Low acrylonitrile content for low temperature applications.	Unique combination of oil resistance and low temperature flexibility for specification compounding.	21.5	58
4880	Cold polymerized. Easy processing. Low water absorption. Low corrosion. Excellent low temperature flexibility.	Used where low temperature flexibility is critical. O-rings, diaphragms and hose application.	23	73
AJ	Hot polymerized. High green strength. Good low temperature flexibility.	Often blended with other PARACRIL® types for a balance of oil resistance and low temperature properties.	23.5	48
ALT	Cold polymerized. High green strength. Good low temperature flexibility, and oil resistance.	Ideal choice for many hydraulic hose and seal applications. Produces stable uncured tubes for braiding.	26	73
AJLT-M60 AJLT-M50 AJLT	Cold polymerized. Good low temperature flexibility and oil resistance. Safe processing. Low corrosion, and water absorption.	Ideal for injection molding and transfer molding compounds. Good extrusion characteristics.	27.5 27.5 27.5	60 50 40
N41	Cold polymerized. Good low temperature flexibility and oil resistance.	Fast curing grade with good green strength for extrusion applications or low durometer compounds requiring higher plasticizer levels and sponge compounds.	29	78
B BJ	Hot polymerized. Good low temperature flexibility and oil resistance.	Polymers maintain oil resistance and low temperature performance from low hardness compounds to very high hardness standards.	29.5 29.5	85 50
BPLT	Cold polymerized. Safe processing. Low corrosion. Fast mixing and low heat buildup with minimum power consumption.	Ideal balance of low temperature flexibility and oil resistance for many automotive applications. Excellent extrusion and molding properties.	31	38
BLT-M80 BLT-M75 BJLT-M60 BJLT-M50 BJLT-M40 BJLT-M30	Cold polymerized. Safe processing. Low corrosion. Fast mixing and lower heat buildup with minimum power consumption.	Ideal balance of low temperature flexibility and oil resistance for many automotive applications. Excellent extrusion and molding properties.	32.5 32.5 32.5 32.5 32.5	80 75 60 50 40 30
BJLT-HX	Maximum heat resistance after oil aging. Excellent green strength. Partially crosslinked	Smooth extrusion. Low die swell and excellent shape retention for applications requiring firm pre-forms.	32	55

Paracril® Nitrile Rubber Polymers

Grade	Description	Uses	%ACN Typical	ML-4@ 100°C Typical
3350EP 3380EP	Cold polymerized. Safe processing. Easy processing for fast mixing and lower heat buildup with minimum power consumption.	Ideal balance of low temperature flexibility and oil resistance for many automotive applications. Excellent extrusion and molding properties. Fast cure rate in peroxide cure systems and excellent solubility in toluene.	33	50 80
32.55XL	Excellent green strength. Partially cross-linked.	Smooth extrusion. Low die swell and excellent shape retention for applications requiring firm pre-forms. Used in PVC modification for improved shape retention.	32.5	55
33.80XL 33.55XL X3675	Highly crosslinked. Medium viscosity for easy processing	Smooth extrusion. Low die swell and excellent shape retention for applications requiring firm pre-forms. Used in PVC formulations for improved compression set.	33 33 38	80 55 55
34PE40	Medium AN NBR with 50 parts of DOP plasticizer.	Low durometer compounds. A high Mooney polymer with 50 parts of DOP for better processing and lower free plasticizer in low durometer roll compounds.	34	40
C	Hot polymerized. Good resistance to fuels and mineral oils. Excellent resistance to animal and vegetable oils and fats. Very good abrasion resistance.	Used where good oil resistance is required and low temperature flexibility is not critical. Can be blended with most elastomers and some plastics to impart special properties.	35	80
CLM	Hot polymerized. Similar to PARACRIL® C in fuel and oil resistance, but has lower viscosity.	Lower in Mooney viscosity than PARACRIL® C and can accept high filter loadings. Gel-free, used for cements.	35	68
CV	PARACRIL® CLM in vinyl-dusted free-flowing crumb form.	Directly soluble, without milling, in solvents like methyl ethyl ketone and acetone. Convenient way to make cements without special equipment.	35	68
CV 80	PARACRIL® C in vinyl-dusted free-flowing crumb form.	Higher viscosity version of PARACRIL® CV.	35	80
CLT CJLT	Low temperature polymerized. Superior oil resistance. Low corrosion and mold fouling.	More oil and fuel resistance than PARACRIL® C. Is gel-free and well suited for adhesive use. Very compatible with phenolic resins.	40 40	65 50

ParaClean® Nitrile Rubber Polymers

Grade	Description	Uses	%ACN Typical	ML-4@ 100°C Typical
28L35	State-of-the-art polymers. Unique features include "clean" low-fouling performance, low volatility at elevated temperatures, and fast cure rates.	Ideal for O-rings, seals, grommets and other mechanical molded goods.	28	35
28L45			28	45
28L80			28	80
31L35			31	35
33L35			33	35
33L50			33	50
36L45			36	45

Paracril Ozo® NBR/PVC Polymers

Grade	Description	Uses	%ACN Typical	ML-4@ 100°C Typical
OZO M50	70% NBR, 30% PVC blend. Excellent ozone and oil resistance. Slab form.	Various fluxed blends of PARACRIL® Nitrile Rubber and PVC rosin. These polymers have outstanding ozone resistance and are truly superior processing. Parts have a smooth finish and high gloss. Abrasion resistance and oil resistance make them excellent polymers for shoe soles, hose covers, and jacketing for wire and cable. Also, widely used in closed cell sponge applications.	30	50
OZO M58			30	58
OZO M65			30	65
OZO 728 C60	BAN content of NBR 28%		28	60
OZO 728 M60			33	60
OZO 733 M60	BAN content of NBR 33%			
OZO 3996	A 60/40 fluxed blend of PARACRIL®/PVC. Excellent abrasion resistance, improved ozone resistance and reduced flex fuel and water vapor permeability.	Especially suited for sponge, fuel filler hose, roll covers and cable jackets.	40	52
OZO SP80	100 NBR / 150 PVC / 150 DOP. Excellent processing and ozone resistance.	Low durometer roll compounds. A unique blend of PVC and DOP reducing the amount of free plasticizer added to roll compounds.	34	29
OZO SP90	60 NBR / 40 PVC / 70 DOP	Low durometer roll compounds. Higher NBR content than OZO SP80.	34	21

Physical Forms

1. Except for PARACRIL OZO® types, all polymers can be obtained as standard 25 kilograms bales for conventional mixing.
2. PARACRIL OZO® types are supplied in slab form in 2,000 lb. bulk boxes.
3. Particulate – particle sizes to meet special needs; blending with plastics, for use in continuous mixers and solutioning for adhesives.

Industrias Negromex, S.A. de C.V.
Carr. Tampico-Mante Km 13.5
C.P. 89600 Altamira, Tam. MÉXICO
<http://www.negromex.com>

Phone Number: (52) 833 229 0345
Fax: (52) 833 229 0347
Customer Service Mexico: (888) 865 3170
NBR Customer Service USA: (281) 397 4104
SBR Customer Service USA: (281) 885 1772
Toll Free Number USA: (866) 648 7453



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