TIRE & SPECIALTY RUBBERS
PRODUCT PORTFOLIO

Our synthetic rubber is a key contributor to tire performance, including impermeability, improved resilience and lower rolling resistance. We are also at the forefront of innovation for a variety of high profile special applications.

www.arlanxeo.com
Versatile performance specialist

The business unit Tire & Specialty Rubbers (TSR) of ARLANXEO is a world-leading supplier of high quality rubbers for the tire industry and for other highly demanding rubber related industries. With a truly global production footprint, TSR has the scale needed to tackle supply driven challenges throughout the entire rubber supply chain. With comprehensive rubber know-how, research and development and application technology under one roof, we offer a broad portfolio of versatile elastomers, such as butyl and butadiene rubbers, that are predominantly used in the production of tires. Our butyl rubber products, such as halogenated butyl rubbers (Halobutyl), are used in the innerliner of tires to provide excellent retention of the desired inflation pressure. Our solution styrene butadiene rubbers (S-SBR), Buna® VSL and Buna® SBR, and neodymium catalyzed butadiene rubbers (Nd-BR), Buna® CB and Buna® Nd EZ, are used in treads, sidewalls and other components of tires. Also included in our portfolio are the general purpose emulsion styrene butadiene rubbers (E-SBR), Buna® SE.

Intensive cooperation with customers

We are at the forefront of innovation and production. With research and development centers around the world, we are working closely with our customers to develop products, processes and solutions that meet their continually changing needs. This, coupled with our excellent reputation and reliable deliveries, provides a solid basis for growing strategic cooperations and long-term personal contacts, while striving to establish excellent client relationships.

Buna® Nd

Properties

The Buna® Nd EZ family of products is a new generation of high-cis butadiene rubbers that presents a modified polymeric structure enabling remarkable improvements in the processing performance of rubber compounds without sacrificing dynamic properties. This new family of butadiene rubbers catalyzed by neodymium has a very high 1,4-cis content combined with a low 1,2-vinyl content and a narrow molecular weight distribution. Compared to our standard Nd-BR family of products Buna® Nd EZ rubbers feature an increased degree of branching.

This increased degree of branching leads to a lower final compound viscosity and improved downstream processing on the mill or extruder. Subsequently the modified structure leads to improved polymer phase distribution and therefore improved filler distribution which results in excellent dynamic properties. These new grades of easy processing Nd-BR overcome the conflict between superior tire properties and challenging processing.

Applications

Typical applications are tires, retreads, conveyor belts and anti-vibration bushings. It can be blended with NR for goods having thick sections thereby providing high resistance to heat induced reversion (such as buffers and truck tire treads), roll covers and belts needing high abrasion resistance and reduced rolling resistance. These new grades of easy processing Nd-BR can be blended with S-SBR to improve abrasion resistance and rolling resistance in tire tread sections. Provided that the compounds are formulated and processed correctly, the vulcanizates have excellent resistance to aging, reversion, abrasion and flex cracking with superior low temperature flexibility and high resilience.
High-cis butadiene rubbers present a polymeric structure that enables remarkable improvements in the performance of rubber vulcanizates.

ARLANXEO butadiene rubbers catalyzed by neodymium have a very high 1,4-cis content together with a very low 1,2-vinyl content, a relatively narrow molecular weight distribution and a low degree of branching.

Applications

Typical applications are tires, conveyor belts, caterpillar tread blocks, golf balls, footwear soles, V-belts etc. They can be blended with NR for goods having thick sections and requiring high resistance to reversion, besides improving abrasion resistance. The vulcanizates have outstanding resistance to aging, reversion, abrasion and flex cracking, good low temperature flexibility and high resilience.

Co-BRs can be used in sidewall and tread compounds for tires. Further typical applications are conveyor belts, golf balls, footwear soles, etc. They can be blended with NR for goods having thick sections, high resistance to reversion and high abrasion resistance.

Low-cis butadiene rubber is a linear polymer used in classical tire formulations around the bead area of the tire. The Buna® CB 60 grade is star branched to allow the incorporation of high loadings of filler yet allowing excellent processibility in, for example, apex compounds.

Technical rubber goods, apex areas of the tire, shoe soles and in applications where low temperature flexibility is important.
**BUTADIENE RUBBER FOR PLASTIC MODIFICATION**

**Properties**
ARLANXEO butadiene rubbers for plastic modification are produced by a solution polymerization process which enables the production of very pure, virtually gel-free, very clear and almost colorless products. These rubbers are manufactured either in an anionic process or using Ziegler-Natta catalyst systems. The use of organometallic catalysts produces highly uniform polymers that are particularly suited for use in high impact polystyrene (HIPS) and for the mass-solution polymerization of acrylonitrile-butadiene-styrene resins (m-ABS).

**Macrostructure of Butadiene Rubbers**
The use of the different types of polymerization systems influences the macrostructure of the final polymers. They can become either linear or branched which influences the rheological behavior of the rubber itself, such as in its solution viscosity, Mooney viscosity and cold flow. The properties of HIPS are also significantly affected by the macrostructure of the rubber used.

**Stabilization Packages**
Regarding the different requirements of customers and various regional legislations, ARLANXEO offers a range of different antioxidant systems within its portfolio. These systems are characterised by different abbreviations “T”, “IP” & “GPT”. For more detailed information please contact your regional technical service representative that can be found on page 15.

**Product Portfolio**

<table>
<thead>
<tr>
<th>Name</th>
<th>Production site</th>
<th>Type</th>
<th>SV * (mPas)</th>
<th>ML (1+4)</th>
<th>Physical Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buna® CB 70 GPT</td>
<td>Cabo (BR)</td>
<td>Li-BR</td>
<td>250</td>
<td>69.5</td>
<td>in bales</td>
</tr>
<tr>
<td>Buna® CB 55 GPT</td>
<td>Cabo (BR)</td>
<td>Li-BR</td>
<td>165</td>
<td>52.5</td>
<td>in bales</td>
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<tr>
<td>Buna® CB 530 T</td>
<td>Pt. Jérôme (FR)</td>
<td>Li-BR</td>
<td>250</td>
<td>68</td>
<td>in bales</td>
</tr>
<tr>
<td>Buna® CB 550 T</td>
<td>Pt. Jérôme (FR)</td>
<td>Li-BR</td>
<td>163</td>
<td>54</td>
<td>in bales</td>
</tr>
<tr>
<td>Buna® CB 550 IP</td>
<td>Pt. Jérôme (FR)</td>
<td>Li-BR</td>
<td>163</td>
<td>54</td>
<td>in bales</td>
</tr>
<tr>
<td>Buna® CB 565 T</td>
<td>Pt. Jérôme (FR)</td>
<td>Li-BR</td>
<td>44</td>
<td>60</td>
<td>in bales</td>
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<tr>
<td>Buna® CB 550</td>
<td>Orange (US)</td>
<td>Li-BR</td>
<td>163</td>
<td>54</td>
<td>in bales</td>
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<tr>
<td>Buna® CB 380</td>
<td>Orange (US)</td>
<td>Li-BR</td>
<td>90</td>
<td>38</td>
<td>in bales</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name</th>
<th>Production site</th>
<th>Type</th>
<th>SV * (mPas)</th>
<th>ML (1+4)</th>
<th>Physical Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buna® CB 728 T</td>
<td>Orange (US)</td>
<td>Nd-BR</td>
<td>160</td>
<td>44</td>
<td>in bales</td>
</tr>
</tbody>
</table>

*5.43 % rubber solution in toluene

**BUNA® FX – FUNCTIONALIZED SOLUTION STYRENE BUTADIENE RUBBER (S-SBR)**

The Buna® FX product group is a new family of high performance solution styrene butadiene rubbers (S-SBR) that compliments the popular Buna® VSL family. The Buna® FX grades are functionalized with polar end-groups to increase the interaction with silica fillers. This reduces the hysteresis inside the tread compound, thus reducing the rolling resistance of the tires. Traction indicators are also improved.

Buna® FX 3234A-2 HM has a Mooney Viscosity of 80 after the addition of 37.5 phr of TDAE oil. The high Mooney imparts excellent treadwear performance. The high styrene content set at 34% imparts a high level of dynamic stiffness making the grade especially suitable for high performance summer tires. The glass transition temperature of the product is ~30°C. Buna® FX 3234A-2 has a slightly reduced viscosity to allow easier processing.

**Status of the continuous process:**
- Specifically suited for high styrene S-SBR grades, but also for all other microstructures
- Fine tuning of tire properties possible

**FX – FUNCTIONALIZED FAMILY**

<table>
<thead>
<tr>
<th>Name</th>
<th>Production site</th>
<th>styrene (%)</th>
<th>vinyl (%)</th>
<th>ML (1+4)</th>
<th>type of oil</th>
<th>oil (phr)</th>
<th>Tg (°C)</th>
<th>Physical Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buna® FX 3234A-2 HM</td>
<td>Pt. Jérôme (FR)</td>
<td>34</td>
<td>32</td>
<td>65</td>
<td>TDAE</td>
<td>37.5</td>
<td>-30</td>
<td>in bales</td>
</tr>
<tr>
<td>Buna® FX 3234A-2</td>
<td>Pt. Jérôme (FR)</td>
<td>34</td>
<td>32</td>
<td>65</td>
<td>TDAE</td>
<td>37.5</td>
<td>-30</td>
<td>in bales</td>
</tr>
</tbody>
</table>
SOLUTION VINYL STYRENE BUTADIENE RUBBER

Properties
Solution vinyl styrene butadiene rubbers have a modified microstructure with a higher vinyl content than for example Buna® SL grades. Their vinyl and styrene contents increase the Tg values which result in an excellent balance of important properties in tire compounds like handling, traction and rolling resistance, provided that the compounds are formulated and processed correctly. Due to our vast experience with these types of synthetic rubbers, ARLANXEO can offer a broad portfolio of different types of S-SBRs with a wide range in microstructure (vinyl/styrene), varied types of coupling, adjusted glass transition temperature (Tg), targeted functionalizations and Mooney viscosity values. Vulcanizes prepared with these rubbers have excellent resistance to reversion and a distinguished resilience, while keeping flexibility at relatively low temperatures.

Applications
Buna® VSL Solution SBR’s are widely used in passenger tire tread formulations and in particular, high performance tire treads. High vinyl grades, high styrene grades or blends of both are selected depending upon the application requirements of the tire for example, all season tires, winter tires or summer tires. By selecting the correct grade for each of these applications, grip and rolling resistance is enhanced, both being important features on tire labels all over the world. Our offering of TDAE oil extended grades allows for very high molecular weights in the rubber which is vital for excellent treadwear resistance combined with easy processing. Blending with Buna® CB Neodymium Butadiene Rubber and Buna® FX grades will improve rolling resistance and treadwear resistance further to optimize the balance of properties required in the tire.

Product Portfolio

<table>
<thead>
<tr>
<th>Name</th>
<th>Production site</th>
<th>styrene (%)</th>
<th>vinyl (%)</th>
<th>ML (1+4)</th>
<th>type of oil</th>
<th>oil (phr)</th>
<th>Tg (°C)</th>
<th>Physical Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buna® VSL 5025-2 HM</td>
<td>Pt. Jérôme (FR)</td>
<td>25</td>
<td>50</td>
<td>62</td>
<td>TDAE</td>
<td>37.5</td>
<td>-29</td>
<td>in bales</td>
</tr>
<tr>
<td>Buna® VSL 4526-2</td>
<td>Pt. Jérôme (FR)</td>
<td>26</td>
<td>44.5</td>
<td>50</td>
<td>TDAE</td>
<td>37.5</td>
<td>-30</td>
<td>in bales</td>
</tr>
<tr>
<td>Buna® VSL 4526-2 HM</td>
<td>Pt. Jérôme (FR)</td>
<td>26</td>
<td>44.5</td>
<td>62</td>
<td>TDAE</td>
<td>37.5</td>
<td>-30</td>
<td>in bales</td>
</tr>
<tr>
<td>Buna® VSL 5228-2</td>
<td>Pt. Jérôme (FR)</td>
<td>28</td>
<td>52</td>
<td>50</td>
<td>TDAE</td>
<td>37.5</td>
<td>-20</td>
<td>in bales</td>
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<tr>
<td>Buna® VSL 2538-2</td>
<td>Pt. Jérôme (FR)</td>
<td>38</td>
<td>25</td>
<td>50</td>
<td>TDAE</td>
<td>37.5</td>
<td>-31</td>
<td>in bales</td>
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<tr>
<td>Buna® VSL 2438-2 HM</td>
<td>Pt. Jérôme (FR)</td>
<td>38</td>
<td>24</td>
<td>80</td>
<td>TDAE</td>
<td>37.5</td>
<td>-32</td>
<td>in bales</td>
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<tr>
<td>Buna® VSL 3038-2 HM</td>
<td>Pt. Jérôme (FR)</td>
<td>38</td>
<td>30</td>
<td>80</td>
<td>TDAE</td>
<td>37.5</td>
<td>-26</td>
<td>in bales</td>
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</tbody>
</table>

Buna® SBR

Properties
Buna® SBR 2300 and Buna® SBR 2353 are seen as a possible replacement for ESRB 1500 / 1502 and ESRB 1723 types in CB and CB / silica blends respectively. Their low Tg close to -50°C makes them also suitable for winter and all season tread applications.

Applications
Buna® SBR 2153 is a high vinyl SSB with a low oil extension (10 phr MES oil) and targets RRC reduction through allowing reduced filler loadings. Good levels of grip can be achieved.

Buna® SBR 2382 is a high styrene SSB with a low oil extension (10 phr TDAE oil) and due to the high styrene level, imparts stiffness to the tread compound to enhance for example high speed handling. It can also be used to increase stiffness in combination with functionalised SSBs where it is known that stiffness drops due to the improved polymer / filler interaction and reduced Payne effect. It can also be used to achieve higher dynamic stiffness in compounds where RRC has been optimised through reduction of filler loadings.

Product Portfolio

<table>
<thead>
<tr>
<th>Product name and highlights</th>
<th>ML 1+4 @ 100°C [MU]</th>
<th>Vinyl [wt.-%]</th>
<th>Styrene [wt.-%]</th>
<th>Oil [wt.-%]</th>
<th>Tg [°C]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buna® SBR 2300 Low Tg, oil free</td>
<td>54</td>
<td>18</td>
<td>27</td>
<td>-</td>
<td>-48</td>
</tr>
<tr>
<td>Buna® SBR 2353 Low Tg, MES oil extended</td>
<td>54</td>
<td>18</td>
<td>27</td>
<td>25.2 MES (34 phr)</td>
<td>-52</td>
</tr>
<tr>
<td>Buna® SBR 2153 High vinyl, MES oil extended</td>
<td>63</td>
<td>44</td>
<td>25</td>
<td>9.0 MES (10 phr)</td>
<td>-28</td>
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<tr>
<td>Buna® SBR 2382 High styrene, TDAE oil extended</td>
<td>68</td>
<td>14</td>
<td>41</td>
<td>9.0 TDAE (10 phr)</td>
<td>-30</td>
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</table>
**SOLUTION STYRENE BUTADIENE RUBBER**

**Properties**
Provided that the compounds are formulated and processed correctly, the vulcanizates have superior resistance to reversion. The low temperature flexibility, resilience and abrasion resistance depend on the polymer’s styrene and vinyl content. The low vinyl content provides a low Tg which gives an excellent low temperature flexibility, abrasion resistance and low rolling resistance.

**Applications**
Buna® SL has excellent properties in the manufacture of tires, retreads, moulded technical parts, injected or extruded goods, surgical goods, shoe soles and automotive industry parts. In tire manufacture it is blended with NR, BR or E-SBR.

**Product Portfolio**

<table>
<thead>
<tr>
<th>Name</th>
<th>Production site</th>
<th>ML (1+4)</th>
<th>styrene (%)</th>
<th>type of oil</th>
<th>oil (phr)</th>
<th>Physical Form</th>
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<tbody>
<tr>
<td>Buna® SL 4525-0</td>
<td>Cabo (BR)</td>
<td>45</td>
<td>25</td>
<td>none</td>
<td>-</td>
<td>in bales</td>
</tr>
<tr>
<td>Buna® SL 4518-4</td>
<td>Cabo (BR)</td>
<td>45</td>
<td>18</td>
<td>hydrotreated naphthenic</td>
<td>37.5</td>
<td>in bales</td>
</tr>
<tr>
<td>Buna® SL 7518-4</td>
<td>Cabo (BR)</td>
<td>75</td>
<td>18</td>
<td>hydrotreated naphthenic</td>
<td>15.0</td>
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**STYRENE BUTADIENE LATEX**

**Properties**
Foams produced with Taktene® Latex present good elasticity, rebound and dimensional stability. Asphalt binders modified with Taktene® Latex show elastic properties that reduce rutting (permanent deformation) and fatigue cracking, increase pavement’s durability and reduce its maintenance costs. This modification also allows an expansion of the temperature range of service.

**Applications**
Taktene® Latex is used in the production of gel and non-gel laminated foam, moulded foam, lining impregnation, carpet backing, agglomerates of coconut fiber and cork, manufacture of insoles and in modification of asphalt emulsions. Taktene® Latex S 62 F contains no biocide and allows the use in food applications such as production of chewing gum base.

**Product Portfolio**

<table>
<thead>
<tr>
<th>Name</th>
<th>Production site</th>
<th>Total Solids (%)</th>
<th>Brookfield viscosity</th>
<th>Bound styrene (%)</th>
<th>Physical Form</th>
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<tbody>
<tr>
<td>Taktene® Latex S 62</td>
<td>Caxias (BR)</td>
<td>68</td>
<td>800</td>
<td>24</td>
<td>Bulk</td>
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<tr>
<td>Taktene® Latex S 62 F</td>
<td>Caxias (BR)</td>
<td>68</td>
<td>800</td>
<td>24</td>
<td>Bulk</td>
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</table>

**EMULSION STYRENE BUTADIENE RUBBER**

**Properties**
Emulsion styrene butadiene rubbers have a macrostructure with high polydispersions and a low to medium degree of branching. These features make them excellent processing grades allowing a high filler loading incorporation in rubber compounds. Provided that the compounds are formulated and processed correctly, the vulcanizates produced with these rubbers have excellent resistance to reversion, good flexibility at low temperatures, while still maintaining outstanding resilience and abrasion resistance.

**Applications**
Buna® SE is used in order to achieve excellent resistance to wear and tear besides high resistance to cracking. It processes easily in extrusion and calendering, due to its particular macrostructure. It is used in tires, retreads, conveyor belts, piping, hoses, tubings, carpets, molded products in general and shoe soles.

**Product Portfolio**

<table>
<thead>
<tr>
<th>Name</th>
<th>Production site</th>
<th>styrene (%)</th>
<th>ML (1+4)</th>
<th>type of oil</th>
<th>oil (phr)</th>
<th>Stabilisation</th>
<th>Physical Form</th>
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<tr>
<td>Buna® SE 1500</td>
<td>Caxias (BR)</td>
<td>23.5</td>
<td>52</td>
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<td>in bales</td>
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<tr>
<td>Buna® SE 1502 H</td>
<td>Triunfo (BR)</td>
<td>23.5</td>
<td>53</td>
<td>none</td>
<td>-</td>
<td>non-staining</td>
<td>in bales</td>
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<td>Buna® SE 1502 L</td>
<td>Triunfo (BR)</td>
<td>23.5</td>
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<td>in bales</td>
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<td>Caxias (BR)</td>
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<td>Caxias (BR)</td>
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<td>in bales</td>
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<td>Buna® SE 1783</td>
<td>Caxias (BR)</td>
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<td>RAE</td>
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<td>in bales</td>
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<td>Buna® SE 1793</td>
<td>Caxias (BR)</td>
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<td>51</td>
<td>TRAE</td>
<td>37.5</td>
<td>staining</td>
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<tr>
<td>Buna® SL 1799</td>
<td>Caxias (BR)</td>
<td>40.0</td>
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<td>TRAE</td>
<td>37.5</td>
<td>staining</td>
<td>in bales</td>
</tr>
</tbody>
</table>

**STYRENE – BUTADIENE BLOCK COPOLYMERS**

**Properties**
Buna® BL grades are solution polymers having high purity and light colour. They have been designed particularly with the shoe sole industry in mind. Buna® BL grades present a high content of block styrene that makes these polymers a good choice for the manufacturing of shoes soles with increased hardness without sacrificing abrasion resistance.

**Applications**
Buna® BL grades can also be used in rubber heel formulations.

**Product Portfolio**

<table>
<thead>
<tr>
<th>Name</th>
<th>Production site</th>
<th>ML (1+4)</th>
<th>Styrene (%)</th>
<th>Block Styrene (%)</th>
<th>Physical Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buna® BL 30-4548</td>
<td>CABO</td>
<td>45</td>
<td>48</td>
<td>30</td>
<td>in bales</td>
</tr>
<tr>
<td>Buna® XP 7409</td>
<td>CABO</td>
<td>50</td>
<td>48.5</td>
<td>34.5</td>
<td>in bales</td>
</tr>
</tbody>
</table>
The major application area for ARLANXEO butyl rubber products is the tire industry, but its unique properties also make it a key polymer for a variety of technical rubber applications. Butyl vulcanizates offer an attractive range of properties including low permeability, high damping, good ageing, chemical resistance and excellent mechanical properties.

Halogenated grades have a rapid cure rate and can be blended with natural rubber (NR) or synthetic rubbers such as nitrile rubber (NBR), styrene-butadiene rubber (SBR), polychloroprene rubber (CR), ethylene-propylene rubber (EPDM), or butadiene rubber (BR).

**Key properties of butyl rubber**
- excellent ageing stability
- high impermeability to gases
- high resistance to heat
- high hysteresis for energy absorption
- slow vulcanization reactions (low levels of unsaturation)

**Key properties of halobutyl rubber**
- high impermeability to gases
- improved weather and ozone resistance
- improved chemical resistance
- cure versatility
- faster cure rate with lower amount of curatives
- cure compatibility with unsaturated rubbers
- good adhesion to other types of rubber
- heat resistance

The vulcanize properties of ARLANXEO X_Butyl® make it particularly suitable for a variety of rubber products, such as tire inner tubes, curing bladders and protective clothing.

### Properties

Butyl rubbers are copolymers of isobutylene with small amounts of isoprene. The incorporation of isoprene creates double bonds allowing vulcanization with sulfur and other agents.

### Applications

**Regular Butyl Rubber (IIR)**

- Excellent ageing stability
- High impermeability to gases
- High resistance to heat
- High hysteresis for energy absorption
- Slow vulcanization reactions (low levels of unsaturation)

**Key properties of halobutyl rubber**
- High impermeability to gases
- Improved weather and ozone resistance
- Improved chemical resistance
- Cure versatility
- Faster cure rate with lower amount of curatives
- Cure compatibility with unsaturated rubbers
- Good adhesion to other types of rubber
- Heat resistance

### Product Portfolio

<table>
<thead>
<tr>
<th>Name</th>
<th>Production site</th>
<th>Level of unsaturation (mol %)</th>
<th>Mooney viscosity (ML (1+4) 125 °C)</th>
<th>Density (g/cm³)</th>
<th>Physical Form</th>
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</thead>
<tbody>
<tr>
<td>X_Butyl® RB 100</td>
<td>Zwijndrecht (BE)</td>
<td>0.90</td>
<td>33</td>
<td>0.92</td>
<td>in bales</td>
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<tr>
<td>X_Butyl® RB 301</td>
<td>Sarnia (CA), Singapore, Zwijndrecht (BE)</td>
<td>1.85</td>
<td>51</td>
<td>0.92</td>
<td>in bales</td>
</tr>
<tr>
<td>X_Butyl® RB 402</td>
<td>Sarnia (CA), Zwijndrecht (BE)</td>
<td>2.25</td>
<td>33</td>
<td>0.92</td>
<td>in bales</td>
</tr>
<tr>
<td>X_Butyl® RB 101-3</td>
<td>Sarnia (CA)</td>
<td>1.75</td>
<td>51</td>
<td>0.92</td>
<td>in bales</td>
</tr>
</tbody>
</table>

### Always the right specialty rubber for adhesive tapes for different purposes

- The excellent properties of our butyl polymer optimize the production of curing bladders
- ARLANXEO butyl rubbers for tire inner tubes meet all requirements
- Specialty ARLANXEO butyl for chewing gum applications
- Always the right specialty rubber for adhesive tapes for different purposes
HALOGENATED BUTYL RUBBER (HIIR)

Properties

ARLANXEO halogenated X_Butyl® rubber (bromobutyl and chlorobutyl) is produced in a continuous process by reacting bromine (X_Butyl® BB grades) or chlorine (X_Butyl® CB 1240) with butyl rubber. Halogenation allows co-vulcanization and improved compatibility with other diene rubbers in addition to improvements in the vulcanization rates, state of cure and reversion resistance.

Applications

Many of the properties of halobutyl vulcanizates are virtually identical, regardless of the halogen employed. With bromobutyl rubber however, the bromine sites are more reactive, resulting in faster cures and better adhesion to unsaturated rubbers. The versatility of halobutyl rubber has led to a significant growth of its use in a diverse range of tire and non-tire applications.

Product Portfolio

<table>
<thead>
<tr>
<th>Name</th>
<th>Production site</th>
<th>Halogen content (wt %)</th>
<th>Mooney viscosity (ML (1+8) 125 °C)</th>
<th>Density (g/cm³)</th>
<th>Physical Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>X_Butyl® BB 2030</td>
<td>Sarnia (CA), Singapore, Zwijndrecht (BE)</td>
<td>1.80</td>
<td>32</td>
<td>0.93</td>
<td>in bales</td>
</tr>
<tr>
<td>X_Butyl® BB 2040</td>
<td>Sarnia (CA)</td>
<td>1.80</td>
<td>39</td>
<td>0.93</td>
<td>in bales</td>
</tr>
<tr>
<td>X_Butyl® BB X2</td>
<td>Sarnia (CA), Singapore, Zwijndrecht (BE)</td>
<td>1.80</td>
<td>46</td>
<td>0.93</td>
<td>in bales</td>
</tr>
<tr>
<td>X_Butyl® CB 1240</td>
<td>Sarnia (CA), Zwijndrecht (BE)</td>
<td>1.25</td>
<td>38</td>
<td>0.92</td>
<td>in bales</td>
</tr>
</tbody>
</table>

Effective protection through reliable material: High quality ARLANXEO butyl rubbers

Excellent impermeability properties of ARLANXEO butyl make it a top choice rubber for sealant applications

High quality halogenated butyl rubber from ARLANXEO for pharmaceutical closure applications

FOR MORE INFORMATION PLEASE CONTACT US

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Pittsburgh, USA
Swiss, Switzerland
Shanghai, China
Cabo de Santo Agostinho, Brazil
Duque de Caxias, Brazil
Triunfo, Brazil
+ TSR Regional Sales Office
+ TSR T&D and R&D
+ TSR Production
+ TSR Global Headquarters

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High quality halogenated butyl rubber from ARLANXEO for pharmaceutical closure applications
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The current range of synthetic rubbers from ARLANXEO:
The most suitable compounds for tires of all kinds. From cars to high-speed motorcycles, from trucks to gigantic construction vehicles, from bicycles to aircraft tires. In addition, in the spotlight: Our perfected range of specialty rubbers for a variety of very different and most demanding applications.

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