Braskem PIB as gases barrier

Braskem polyisobutylene (PIB) is the result of technology expertise developed in over thirty years in the market. It provides a cheaper solution by allowing a partial replacement of some products entailing a competitive edge when applied to rubber. In the inner liner, the internal tire layer, it is possible to reduce up to 30% of the halobutyl rubber fraction (for example CIIR), acting as a gas barrier, allowing for instance, to keep tires inflated for longer periods.

Additionally, **Braskem PIB** can be ideal for hoses, gaskets, balloons and other products requiring an efficient gas barrier.

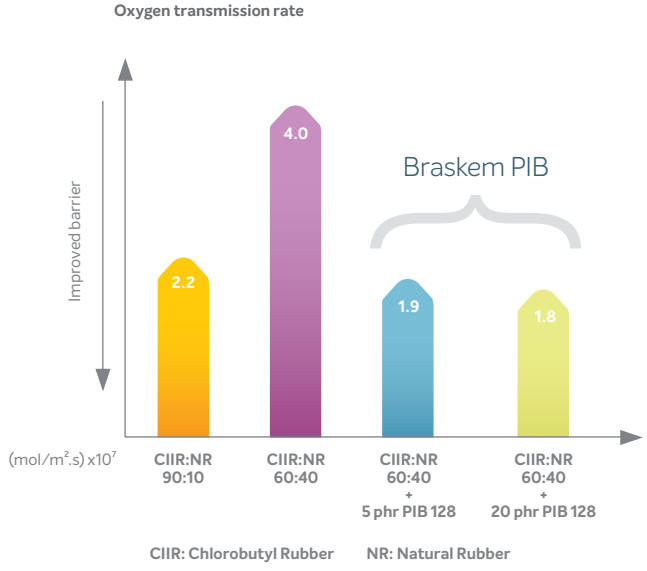
Performance of Braskem PIB 128

We carried out an oxygen permeability study in a standard tire inner liner formulation. The graph on the right shows the obtained results.

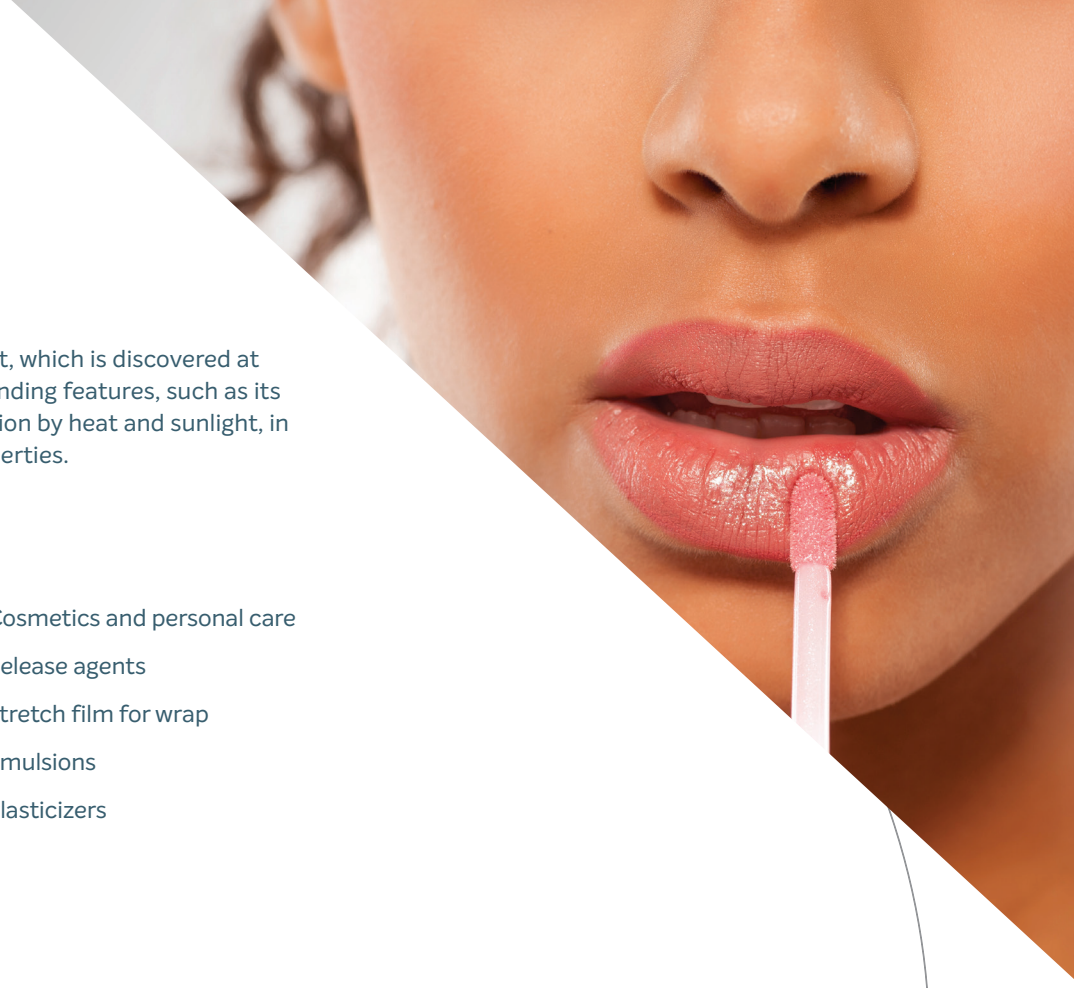
The conclusion was that 5 phr of **Braskem PIB** are sufficient to reduce the CIIR by 30% in the composition while maintaining the gas barrier.

Braskem PIB did not affect the remaining mechanical properties of the tested inner liner.

Formula evaluation



Braskem



Braskem PIB is a very versatile product, which is discovered at each new application due to its outstanding features, such as its chemical stability, resistance to oxidation by heat and sunlight, in addition to its excellent dielectric properties.

Applications

- Adhesives and sealants
- Wires and Cables
- Chemical reactions
- Films for packaging
- Gaskets
- Lubricants
- Cosmetics and personal care
- Release agents
- Stretch film for wrap
- Emulsions
- Plasticizers

Benefits

- Nontoxic and non-phytotoxic
- Reduces friction and adjusts viscosity index
- Compatible with many organic compounds
- "Tacking properties" that increase with the product's viscosity
- Soluble in most organic solvents
- Stable product that remains unaffected from the action of sunlight and which remains unchanged over time.
- Emulsionable in aqueous solutions
- Excellent dielectric properties

Braskem PIB Specification

PIB	Viscosity cSt at 100°C	Viscosity cSt at 37.8°C	Flash Point °C	Color Pt- Co Max	Water ppm
4	-	14-19	125	70	80
6	4-6	26-34	125	70	80
8	9-14	102-110	130	70	80
10	20-30	380	130	60	70
12	34-42	550	135	60	60
16	46-52	760	135	60	60
24	200-240	7000	190	50	50
28	260-320	10000	190	50	50
30	600 - 650	19500	190	50	50
32	640-720	22000	195	50	50
122	3000-3400	-	235	50	50
128	4000-4700	-	240	50	50
240	11000-14000	-	245	50	50

light PIB
medium PIB
heavy PIB