



## X\_BUTYL® HALOBUTYL RUBBER FOR HOSES

The unique combination of properties, such as a high permeation barrier, high damping, resistance to ozone and heat ageing makes chlorinated X\_Butyl® ideal for many non-tire applications.

Automotive air conditioning (AC) systems use elastomers in seals around the fittings and shafts, and in hoses that conduct both gaseous and liquid refrigerants. Chlorinated X\_Butyl® is considered by many air-conditioning hose manufacturers as the base polymer for this application, because of the excellent permeation resistance to the refrigerant R-134a, high damping of low frequency vibrations, excellent low temperature properties and excellent heat ageing to maintain good flexibility. The vulcanizates based on chlorinated X\_Butyl®, when correctly compounded, meets the most

stringent specification requirements and prevents the ingress of moisture into the air conditioning system.

Summary of AC hose requirements:

- low permeability and resistance to R-134a
- resistance to the lubricant (PAG)
- resistance to temperatures from -30 °C to 150 °C
- good compression set
- good resistance to dynamic stress, vibrations and pressure up to 30 bars

Hoses for use with refrigerants under pressure should have a high modulus to provide good resistance to expansion and good compression set to provide good sealing under clamping conditions at the various fittings.

### ARLANXEO PRODUCT PROPERTIES

		Mooney [ML(1+8)@125 °C, MU]	Halogen [wt%]	Ash [wt%]	Volatiles [wt%]
Bromobutyl Rubber	X_Butyl® BB 2030	32	1.8	<0.7	<0.7
	X_Butyl® BB 2040	39	1.8	<0.7	<0.7
	X_Butyl® BB X2	46	1.8	<0.7	<0.7
Chlorobutyl Rubber	X_Butyl® CB 1240	38	1.25	<0.5	<0.5

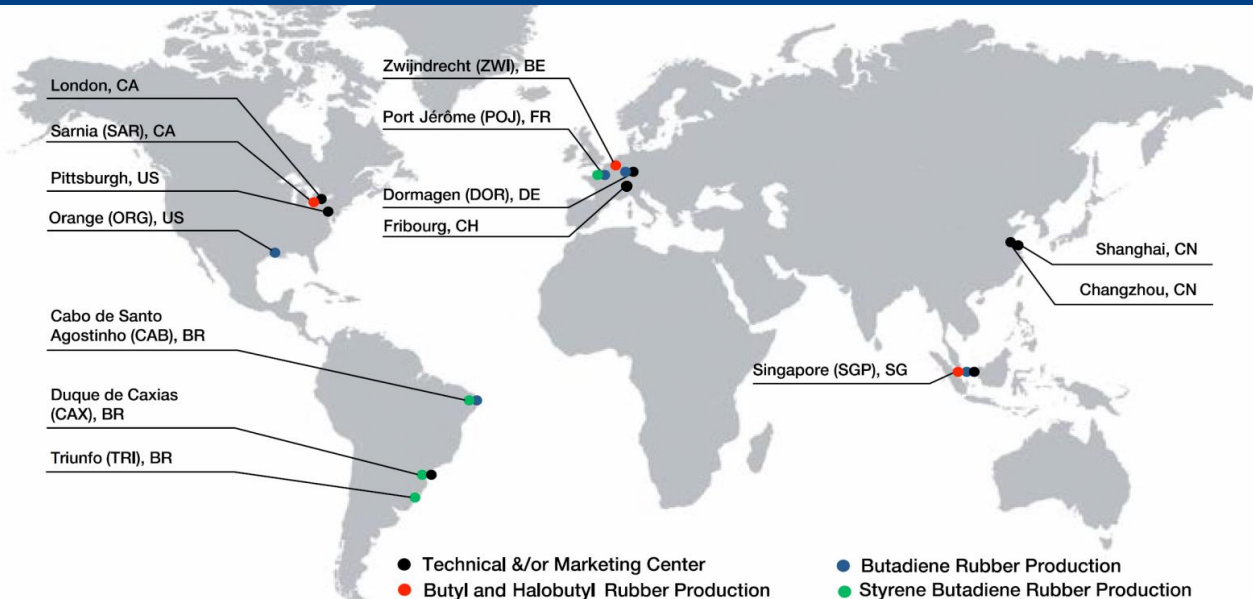
### TYPICAL COMPOUND PROPERTIES:

Ingredient	phr
X_Butyl® CB 1240	100
Stearic Acid	1
Carbon Black	70
ZnO	3
HVA-2	2

Mechanical Properties*	Unit	phr
Hardness	(ShA)	71
Tensile Strength	(MPa)	13.5
Elongation at break	(%)	225
Compression Set (70 hrs, 100 °C)	(%)	15
Compression Set (70 hrs, 150 °C)	(%)	32

\*These items are provided as general information only. They are approximate values and are not considered part of the product specifications. Please contact your regional representative for additional information.

# TIRE AND SPECIALTY RUBBERS GLOBAL FOOTPRINT



## WE ARE HAPPY TO SUPPORT YOUR BUSINESS

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The manner in which you use and the purpose to which you put and utilize our products, technical assistance and information (whether verbal, written or by way of production evaluations), including any suggested formulations and recommendations are beyond our control. Therefore, it is imperative that you test our products, technical assistance and information to determine to your own satisfaction whether they are suitable for your intended uses and applications. This application-specific analysis must at least include testing to determine suitability from a technical as well as health, safety, and environmental standpoint. Such testing has not necessarily been done by us. Unless we otherwise agree in writing, all products are sold strictly pursuant to the terms of our standard conditions of sale. All information and technical assistance is given without warranty or guarantee and is subject to change without notice. It is expressly understood and agreed that you assume and hereby expressly release us from all liability, in tort, contract or otherwise, incurred in connection with the use of our products, technical assistance, and information. Any statement or recommendation not contained herein is unauthorized and shall not bind us. Nothing herein shall be construed as a recommendation to use any product in conflict with patents covering any material or its use. No license is implied or in fact granted under the claims of any patent.

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Note: The information contained in this publication is current as of September 2018.

Please contact ARLANXEO USA LLC to determine if this publication has been revised.