



BUNA™ CB POLYBUTADIENE RUBBER FOR GOLF BALLS

A golf ball needs to have good dynamic properties. In order for the ball to fly several hundred yards and land where the player wants it to, with as little energy as possible lost when the golf club strikes the ball. This is where the right butadiene rubber found in the core of the golf ball comes into play.

The rebound elasticity is of crucial importance to rubber items, since it is an indicator of how economically the elastomer uses energy when it undergoes deformation.

A good rebound elasticity means that a rubber item releases most of the mechanical energy put into it without being transformed into heat when it returns to its original shape after being subjected to a load.

ARLANXEO BUNA® CB high cis Neodymium and Cobalt Butadiene Rubber (BR) used in the cores of high-quality balls have very good rebound elasticity and are the polymers of choice for this application.

ARLANXEO PRODUCT PROPERTIES

High-Cis Neodymium BR	Mooney [ML(1+4) @ 100 °C, MU]	Remark
BUNA™ CB 22	63	highly linear
BUNA™ CB 24	44	linear

High-Cis Cobalt BR	Mooney [ML(1+4) @ 100 °C, MU]	Remark
BUNA™ CB 1221	53	branched
BUNA™ CB 1203	43	branched
BUNA™ CB 1220	40	highly branched

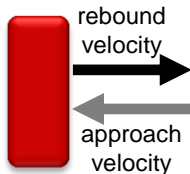
KEY PARAMETERS

Compression



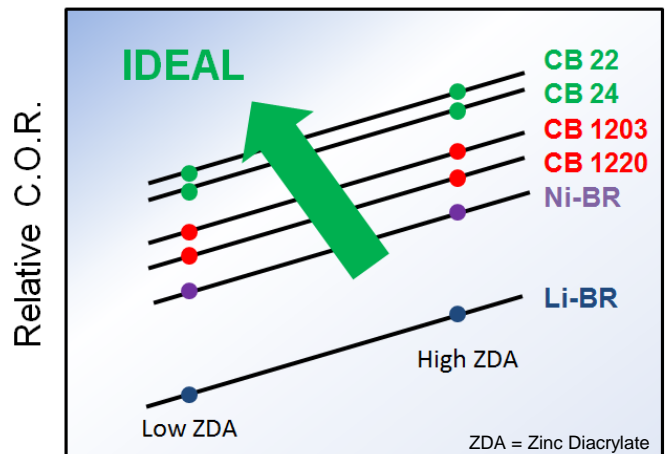
- Greater deformation under load due to lower modulus

Coefficient of Restitution (C.O.R)



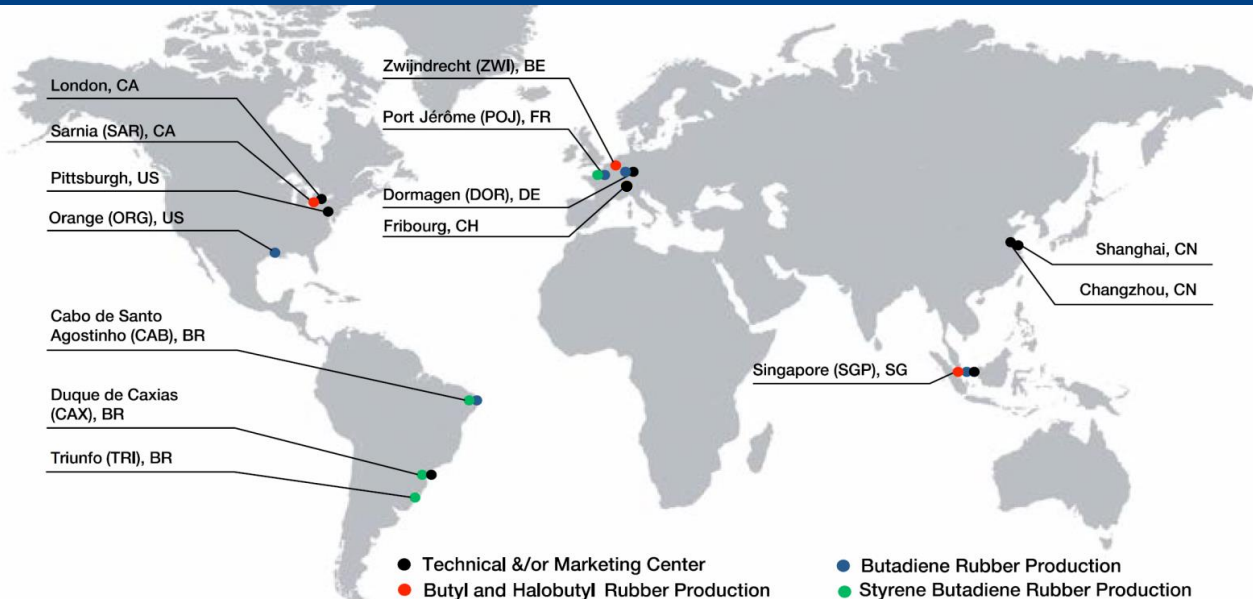
$$C.O.R. = \frac{\text{rebound velocity}}{\text{approach velocity}}$$

- Indicator of distance due to energy lost



Relative Compression

TIRE AND SPECIALTY RUBBERS GLOBAL FOOTPRINT



WE ARE HAPPY TO SUPPORT YOUR BUSINESS

NORAM

Technical Service

Sharon Guo

E-mail: sharon.guo@arlanxeo.com

Phone: +1 519 953 1728

Sales

Jay Capelli

E-mail: jay.capelli@arlanxeo.com

Phone: +1 412 809 2237

EMEA

Technical Service

Wilfried Braubach

E-mail: wilfried.braubach@arlanxeo.com

Phone: +49 221 8885 1085

Sales

Marco Eira

E-mail: marco.eira@arlanxeo.com

Phone: +41 26 422 8354

APAC

Technical Service

Esther Han

E-mail: esther.han@arlanxeo.com

Phone: +65 6725 5709

Sales

JooSang Kim

E-mail: joosang.kim@arlanxeo.com

Phone: +65 6725 5872

LATAM

Technical Service

Marcus Moutinho

E-mail: marcus.moutinho@arlanxeo.com

Phone: +55 21 2677 1219

Sales

Sergio Botafogo

E-mail: sergio.botafogo@arlanxeo.com

Phone: +55 21 2677 1344

Please contact us for additional information or visit us at
www.tsr.arlanxeo.com

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.

Health and Safety Information: Appropriate literature has been assembled which provides information concerning the health and safety precautions that must be observed when handling the ARLANXEO products mentioned in this publication. For materials mentioned which are not ARLANXEO products, appropriate industrial hygiene and other safety precautions recommended by their manufacturers should be followed. Before working with any of these products, you must read and become familiar with the available information on their hazards, proper use, and handling. This cannot be overemphasized. Information is available in several forms, e.g., *safety data sheets and product labels*. Consult your ARLANXEO representative or contact the Product Safety and Regulatory Affairs Department.

X_Butyl® is a registered trademark of ARLANXEO Switzerland S.A.
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.

ARLANXEO
Performance Elastomers