International Standard

ISO 20299-2

Film for wrapping rubber bales —

Part 2: Natural rubber and modified natural rubber

Emballage des balles en caoutchouc —

Partie 2: Caoutchouc naturel et caoutchouc naturel modifié

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Foreword

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This document was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 3, *Raw materials (including latex) for use in the rubber industry*.

This third edition cancels and replaces the second edition (ISO 20299-2:2017), which has been technically revised.

The main changes are as follows:

— the title has been changed;

— the scope has been expanded to incorporate modified natural rubber bales, and the bale mass of 33,33 kg has been changed to 33,3 kg;

— the normative references have been updated;

— in Clause 5, replacement of “specific gravity” by “density”; addition of the method A of ISO 1183-1:2019 to determine the density; addition of the requirement for test specimens to determine the Vicat softening temperature; addition of method A of ISO 3146:2022 as an alternative procedure to the DSC method for the determination of melting point of the low-density polyethylene (LDPE) film;

— in Clause 6, deletion of paragraphs one and two;

— addition of Annex A.

A list of all parts in the ISO 20299 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

Block natural rubber is prepared by comminuting large lumps, washed with plenty of water. It is then dried, baled and packed. The bales are wrapped in clear polyethylene film and packed into metal or wooden crates.

Bale coating on natural rubber ribbed smoked sheet bundles is used to prevent stickiness between bales and fungus formation on the external sides, and also to allow for the stencilling of the grade mark and supplier code. The bale coating solution is a non-reinforcing filler which has no benefit in product manufacturing. Excess bale coating generates ash, which adversely affects the quality of end products and creates environmental issues.

Shifting to wrapping polyethylene film is an alternative option that is beneficial to all, as it is cost effective, environmentally friendly and pollution free. However, it is difficult and uneconomic to strip the film from each bale, and therefore an essential feature is that the film disperses into the rubber compound during mixing. This means that its melting point must be lower than the temperatures attained in internal mixing cycles, typically 120 °C to 160 °C.

Nowadays, modified natural rubbers, such as epoxidized natural rubber (ENR) and low-protein natural rubber (LPNR), are widely used due to their special properties. Therefore, it is important for the requirements of wrapping polyethylene film to cover the modified natural rubber bales.