INTERNATIONAL STANDARD

ISO 19846

First edition
2017-05

Reclaimed rubber — Coding and classification system

Caoutchouc régénéré — Codage et système et de classification

Reference number
ISO 19846:2017(E)

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Contents

Page

Foreword

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For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

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*.

Introduction

Reclaimed rubber has many variables. Therefore, it becomes difficult for users to differentiate the quality of reclaimed rubber. This classification system in this document will help users to specify the reclaimed rubber they want to use.

Reclaimed rubber — Coding and classification system

1 Scope

This document specifies:

— a coding system of reclaimed natural rubber and reclaimed isobutylene-isoprene (IIR) rubber;

— a numeric system to classify reclaimed rubber.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

4 Classification system

The reclaimed rubber shall be classified according to Table 1.

The classification depends on:

— the type of the reclaimed rubber: reclaimed rubber derived from natural rubber or from isobutylene-isoprene rubber (IIR);

— the value of Mooney viscosity, tensile strength, rubber hydrocarbon content and acetone extract, determined according to ISO/TS 16095 or ISO/TS 16096.

Table 1 — Classification system

Type of rubber	Natural rubber	Isobutylene-isoprene (IIR) rubber
Class	1	2

Mooney viscosity ML(1+4) at 100 °C	
Code	***MV***
MVA	$MV \leq 25$
MVB	$25{,}0 < MV \leq 35{,}0$
MVC	$35{,}0 < MV \leq 50{,}0$
MVD	$50{,}0 < MV \leq 65{,}0$
MVE	$65{,}0 < MV \leq 80{,}0$
MVF	$MV > 80{,}0$

Tensile strength	
Code	***TS*** MPa
TA	$TS \geq 12{,}0$
TB	$9{,}0 \leq TS < 12{,}0$
TC	$6{,}0 \leq TS < 9{,}0$
TD	$4{,}0 \leq TS < 6{,}0$
TE	$TS < 4{,}0$
—	—

Rubber hydrocarbon content	
Code	***RHC*** %
RH1	$RHC > 60$
RH2	$50{,}0 < RHC \leq 60$
RH3	$40{,}0 < RHC \leq 50$
RH4	$RHC \leq 40$
—	—
—	—

Acetone extract	
Code	***AE*** %
AE1	$AE \leq 12$
AE2	$12 < AE \leq 16{,}6$
AE3	$16{,}6 < AE \leq 20{,}0$
AE4	$AE > 20$
—	—
—	—

EXAMPLE 1 A reclaimed rubber derived from natural rubber, with a Mooney viscosity of 42, a tensile strength of 8,0 MPa, a rubber hydrocarbon content of 52 % and an acetone extract of 14 % is designated as follows:

1 MVC TC RH2 AE2

EXAMPLE 2 A reclaimed rubber derived from isobutylene-isoprene (IIR) rubber, with a Mooney viscosity of 34, a tensile strength of 7,5 MPa, a rubber hydrocarbon content of 54 % and an acetone extract of 10 % is designated as follows:

2 MVB TC RH2 AE1