

ICS 83.040.10

CCS G 35



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 34685-2017

Acrylonitrile-butadiene rubber (NBR) -- Evaluation procedure

丙烯腈-丁二烯橡胶 (NBR) 评价方法

(English Translation)

Issued on: November 1, 2017

Implemented on: May 1, 2018

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China, Standardization
Administration of the People's Republic of China**

Table of Contents

Preface
1 Scope
2 Normative references
3 Sampling and sample preparation
4 Raw rubber physical and chemical test
4.1 Mooney viscosity
4.2 Volatile
4.3 Ash
5 Preparation of a sample for evaluation
5.1 Standard test formula
5.2 Procedure
5.2.1 General
5.2.2 Mixing mill mixing process
5.2.2.1 Overview
5.2.2.2 Procedure 1
5.2.2.3 Procedure 2
5.2.3 Small mixer mixing process
5.2.4 Mixer mixer mixing mill final mixing process
5.2.4.1 Overview
5.2.4.2 Mixer mixing process
5.2.4.3 Plastic material adjustment
5.2.4.4 Open mill mixing process
5.2.4.5 Plastic material adjustment
Evaluation of vulcanization
6.1 Oscillation with the disk vulcanizer
6.2 Without rotor rheometer
7 Vulcanizates tensile stress - strain performance evaluation
8 Precision
9 Test Report
Appendix A (informative) normative references to adjust the situation
Appendix B (informative) Precision
References

Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard uses redrafted Law Amendment uses ISO 4658:1999 "acrylonitrile - butadiene rubber (NBR) evaluation method." this standard compared with ISO 4658:1999, the main technical differences are as follows.

--- On normative references, this standard made a technical difference with the adjustment to adapt to China's technical conditions, adjust the situation Concentration reflected in Chapter 2 "Normative references", the specific adjustment see Appendix A;

--- Modify the test formulations with the technical requirements of the agent (see 5.1);

--- Modify the mixing mill program 1 (see 5.2.2.2);

--- Increased cumulative time (see 5.2.2.2, 5.2.2.3.2, 5.2.2.3.3, 5.2.3.3, 5.2.4.2, 5.2.4.4);

--- Increase the temperature and time of vulcanized rubber after mixing in small mixer (see 5.2.3.4);

--- Modify the "precision" (ISO 4658:1999 Chapter 8) for the informative Appendix B.

This standard made the following editorial changes.

--- Including ISO 4658:1999/Amd.1.2004 technical content (see 5.2.4);

--- Removed the contents of the ISO 4658:1999/Amd.1.2004 repeated (see ISO 4658:1999/Amd.1.2004 5.2.4.1, version 5.2.4.1);

--- Increased informative Appendix A, given normative references to adjust the situation.

This standard proposed by the China Petrochemical Corporation.

This standard by the National Rubber and Rubber Products Technical Committee Standardization Technical Committee sub-rubber (SAC/TC35/SC6) Focused.

This standard drafting unit. PetroChina Petrochemical Research Institute, Ningbo Shunze Rubber Co., Ltd., China Stone Oil and Gas Co., Ltd. Lanzhou Petrochemical Branch.

1 Scope

This standard specifies the acrylonitrile - butadiene rubber (NBR).

--- raw rubber physical and chemical test methods;

--- Standard materials, standard test formulations, equipment, procedures used to evaluate vulcanization characteristics of acrylonitrile-butadiene rubber (NBR) Method for evaluating tensile stress-strain behavior of vulcanized rubber.

This standard applies to acrylonitrile - butadiene rubber (NBR).

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version applies to this article Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 528 Rubber, vulcanized or thermoplastic - Determination of tensile stress - strain properties (GB/T 528-2009, ISO 37:2005, IDT) GB/T 1232.1 unvulcanized rubber with a disk shear viscometer - Part 1 Determination of Mooney viscosity (GB/T 1232.1-2016, ISO 289-1:2014, IDT) Industrial sulfur - Part 1. Solid products GB/T 2941 rubber physical test sample preparation and conditioning procedures (GB/T 2941-2006, ISO 23529:2004, IDT) GB/T 3185-2016 Zinc oxide (indirect method) GB/T 4498.1 Determination of rubber ash - Part 1. Muffle furnace method (GB/T 4498.1-2013, ISO 247:2006, MOD) GB/T 6038-2006 rubber test compounding ingredients, mixing and curing equipment and operating procedures (ISO 2393:1994, MOD) GB/T 9103-2013 Industrial stearic acid GB/T 9869 Rubber compounds vulcanization - Determination of disk oscillation sulfide method (GB/T 9869-2014, ISO 3417.

2008, IDT)

GB/T 15340 Natural, synthetic raw gum sampling and sample preparation methods (GB/T 15340-2008, ISO 1795:2000, IDT) GB/T 16584 Determination of rubber vulcanization without rotor rheometer (GB/T 16584-1996, ISO 6502:1991, MOD) GB/T 19187 Synthetic rubber sampling procedures GB/T 21184 Rubber compounding sulfenamide accelerator test method (GB/T 21184-2007, ISO 11235:1999, NEQ) ISO 248-1:2011 Determination of volatile rubber content of raw rubber - Part 1. Hot roller method and oven method (Rubber, raw-De-terminationofvolatilemattercontent-Part 1: Hot-milmethodandovenmethod)

3 Sampling and sample preparation

3.1

by GB/T 19187 sampling about 1.5kg.