
British Standard Methods of testing

Plastics

Part 4. Chemical properties

Method 452C. Determination of butyl rubber content of low density polyethylene compounds

Méthodes d'essai des matières plastiques

Partie 4. Caractéristiques chimiques

Méthode 452C. Détermination de la teneur en élastomères butyliques des composés de polyéthylène à basse densité

Prüfverfahren für Kunststoffe

Teil 4. Chemische Eigenschaften

Verfahren 452C. Bestimmung des Butylkautschukgehaltes von Polyäthylenverbindungen niedriger Dichte

IMPORTANT NOTE. Before reading this method it is essential to read the foreword, general introduction and instructions to BS 2782, issued separately.

0. Introduction

This method has been prepared under the direction of the Plastics Standards Committee. The method describes a procedure for determining the amount of butyl rubber in polyethylene compounds based on polymers of density not exceeding 0.930 g/cm^3 . Using this method any soluble substance other than butyl rubber will also be reported as butyl rubber but if the small proportion of extractable material normally in the polymer is known, allowance can be made for it. In any case, any result not exceeding 2 % may normally be taken as indicating freedom from butyl rubber.

The method is technically similar to method 405C of BS 2782 : 1970 which will be withdrawn.

Warning note. This British Standard method does not necessarily detail all precautions to meet the requirements of the Health and Safety at Work etc. Act 1974. Attention should be paid to any appropriate safety precautions and the method should be operated only by trained personnel.

1. Scope

This method describes a procedure for determining the butyl rubber content of low density polyethylene compound.

2. Reference

The following standards publication is referred to in this method.

BS 2648 Performance requirements for electrically-heated laboratory drying ovens

3. Principle

The material is dissolved in hot light petroleum solvent and methyl ethyl ketone is added to precipitate the polyethylene. The mixture is allowed to cool to room temperature, the polyethylene is filtered off, the extract is evaporated and the residue weighed.

4. Apparatus

The following apparatus is required.

4.1 Beaker, 150 ml.

4.2 Water-bath.

4.3 Filter flask and glass funnel.

4.4 Evaporating basin, 150 ml.

4.5 Oven complying with the requirements of BS 2648 and capable of being controlled at $115 \pm 5^\circ\text{C}$.