YY / YBB

PETROCHEMICAL INDUSTRY STANDARD

OF THE PEOPLE'S REPUBLIC OF CHINA

YBB 00102003-2015

Test for Peel Strength

剥离强度测定法

Issued on: August 11, 2015 **Implemented on: December 01, 2015**

Issued by: China Food and Drug Administration of PRC

Test for Peel Strength

This Standard applies to the determination of peel strength of all kinds of soft and rigid composite plastic materials which are composites on plastic or other base materials (such as aluminium foils and paper).

Peel strength refers to the average peel force of composite layer and base material measured by carrying out TT-type peeling on a specimen of specified width at a certain speed.

Method for determination

Take an appropriate amount of specimen; remove 50 mm in the width direction at both ends of specimen; cut 5 specimens of horizontal width, lateral width 15.0 ± 0.1 mm apiece and length 200 mm. The composite direction is the longitudinal direction. Specimens shall be stored for 4 h in the environment of temperature 23°C ± 2°C and relative humidity 50% ± 5%, and tested under such conditions.

First peel 50 mm of composite layer and base materials at one end along the length direction of specimens. The peeled part shall have no visible damage. If it is hard to peel specimens, about 20 mm of one end of specimens may be immersed in an appropriate solvent (usually ethyl acetate and acetone) for treatment; after the solvent is fully evaporated, the test for peel strength may be carried out.

If composite layer is not separated from base material through the treatment of the above-mentioned method, the test shall not be continued and the material is determined to be not peelable.

Fix both ends of the peeled part of specimens to the upper and lower clamps of tester, to make the vertical axis of the peeled part of specimens coincide with the centre line of the upper and lower clamps, with appropriate tightness. During the test, the unpeeled part and the tensile direction form a T, see Figure 1. The test speed is 300 mm/min ± 30 mm/min. Record the peel force curve during the peeling process of specimens.

Test result

Refer to the three typical curves of Figure 2; take an applicable method for evaluation; calculate the average peel strength of each specimen. Calculate the arithmetic mean value of the longitudinal and lateral peel strength of each group of specimens as the test result; take two significant digits, expressed in N/15 mm.

If composite layer is not peelable or composite layer ruptures, its peel strength passes the test.