



Class I

S1030 ADHESIVE QUALITY ASSURANCE SPECIFICATION

RK-6017

Raychem brand S1030 Adhesive Tape

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1. SCOPE

This Quality Assurance Specification establishes the quality standard for a general purpose, flexible, thermoplastic, modified polyolefin adhesive tape.

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2. REQUIREMENTS

2.1. Composition, Appearance and Colour

The tape shall be homogenous and essentially free from pinholes, bubbles and cracks. The colour shall be black.

2.2. Test Requirements

The adhesive shall meet all the requirements in Table 2.

2.3. Shelf Life

Shelf life when stored properly in original unopened packaging, out of direct sunlight and at normal room temperature typically not exceeding 23°C, unless otherwise noted. Short-term temperature & humidity excursions whilst still not exceeding 35°C & 75% relative humidity (RH), will not affect the performance of the product. See document 126-116006.

3. TEST METHODS

3.1. Peel Strength

Five cylindrical aluminium rolling drum peel strength mandrels 25 mm long by 25 mm diameter shall be degreased using IPA. Then the outer surface of aluminium rolling drum shall be abraded with P320 grit emery cloth. Remove loose particles from the abraded area using a dry tissue. A single layer of S1030 Adhesive Tape shall be wrapped round the mandrels to cover all the outer surfaces. The inside surface of five x 50mm length specimens of DR-25-1-1/2-0 sleeving, shall be degreased using IPA. Then the inner surface of sleeving shall be abraded with P100 grit emery cloth. Remove loose particles from the abraded area using a dry tissue. Recover the sleeving on to the mandrels by heating at $150 \pm 3^{\circ}\text{C}$ for 20 min. The specimens shall be allowed to cool in air to ambient temperature. The specimens shall be slit axially and peeled from the mandrels in a suitable tensile test machine such that the sleeving peels off at a rate of 50 ± 5 mm length/min, as the mandrel rotates. See figure 1. The test shall be carried out at a temperature of $23 \pm 2^{\circ}\text{C}$. The mean peel off force for each specimen shall be recorded, and the central value of the five recorded measurements reported as the Peel Strength. In the case of testing for peel strength after fluid immersion, the samples shall be slit axially after the stated drying time.

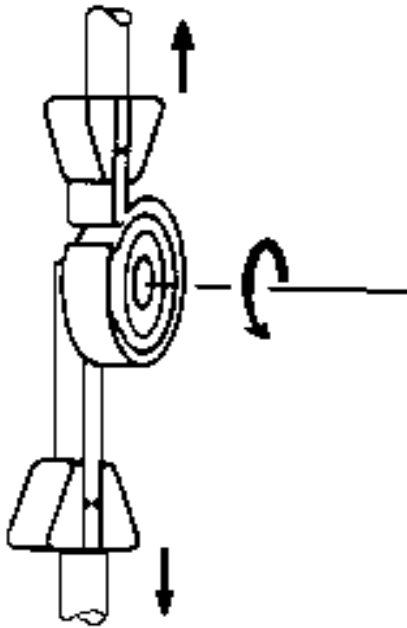


Figure 1: Illustration of the peel test

3.2. Specific Gravity

The test method shall be as specified in Method A of ISO 1183

3.3. Low Temperature Flexibility

The test method shall be as specified in Procedure C of ASTM D2671. Three specimens 300 mm long shall be cut from the tape. Mandrel diameter shall be 20 x specimen thickness, $\pm 10\%$.

The specimens and mandrels shall be conditioned as in specified in Table 2.

3.4. Fluid Resistance

Five adhesion test specimens prepared as in Clause 3.1 shall be completely immersed in each of the fluids for the times and temperatures specified in Table 1. The volume of the fluid shall not be less than 20 times that of the specimen. After immersion, lightly wipe the specimens and allow to air dry at $23 \pm 2^\circ\text{C}$ for $1\text{h} \pm 15\text{min}$.

The Peel Strength of each specimen shall be tested according to Clause 3.1. The test shall be repeated on the remaining specified fluids.

4. RELATED STANDARDS

Title	Description
ASTM D2671-00	Standard Test Methods for Heat-Shrinkable Tubing for Electrical Use
ISO 1183-1: 2009	Plastics - Methods For Determining The Density Of Non-Cellular Plastics - Part 1: Immersion Method, Liquid Pyknometer Method And Titration Method
126-116006 rev. G	Product Dimensional Life / Product Shelf Life

Table 1 – Related Standards

Subsequent amendments to, or revisions of, any of the above publications apply to this standard only when incorporated in it by updating or revision.

5. SAMPLING

Tests shall be carried out on a sample taken at random from each batch of tape. A batch is defined as that quantity of tape manufactured from the same production run and offered for inspection at the same time.

Testing frequency shall be Production Routine or Qualification. Production Routine tests consisting of Visual Examination, Dimensions, Specific Gravity and DR-25 to Aluminium Adhesive Peel Strength shall be carried out on every batch of tape.

Qualification tests shall be carried out to the requirements of the Design Authority.

6. PACKAGING

Packaging shall be in accordance with good commercial practice. Each package shall bear an identification label showing material quantity, description and batch number. Additional information shall be supplied as specified in the contract or order.

7. TEST REQUIREMENTS

Test	Test Method	Test Requirements
Visual Examination	-	As per Clause 2.1
Dimensions	-	As per Clause 2.2
Peel Strength	Clause 3.1	60 N/25 mm minimum
Specific Gravity	ISO 1183	1.0 maximum
Low Temperature Flexibility (4 h ± 15 min at -75 ± 2°C)	Clause 3.3 ASTM D2671	No cracking
Fluid Resistance (24 ± 2 h immersion at 23 ± 2°C) Aviation Fuel to JP-8 (F-34) Hydraulic Fluid to H-515 (MIL-H-5606) Lubricating Oil to O-149	Clause 3.4	
Peel Strength (DR-25 to Aluminium)	Clause 3.1	50 N/25 mm minimum

Table 2 – Test Requirements

8. REVISION HISTORY

Author	Date	Rev	Comments
Linda Abrams	September 1998	2	CR98-DM-0199
Helen Smith	July 2009	3	CR09-DM-043
Paul Dixon	3 August 2010	4	CR10-DM-009
Rob Sinclair	18 August 2022	5	Document format updated, Replaced obsolete RW-16 with DR-25 tubing

Table 3 – Revision History

In line with a policy of continual product development, TE Connectivity reserves the right to make changes in construction, materials and dimensions without further notice. You are advised, therefore, to contact TE Connectivity, should it be necessary to ensure that this document is the latest issue.