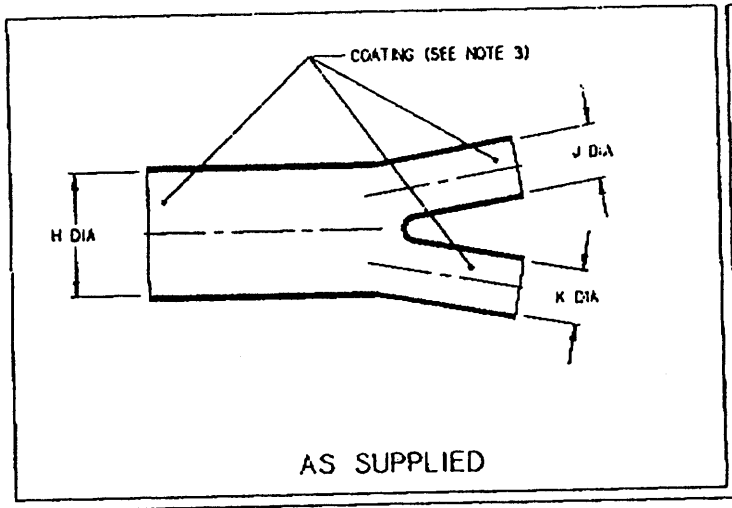
Thermofit® Molded Parts
Specification Control Drawing

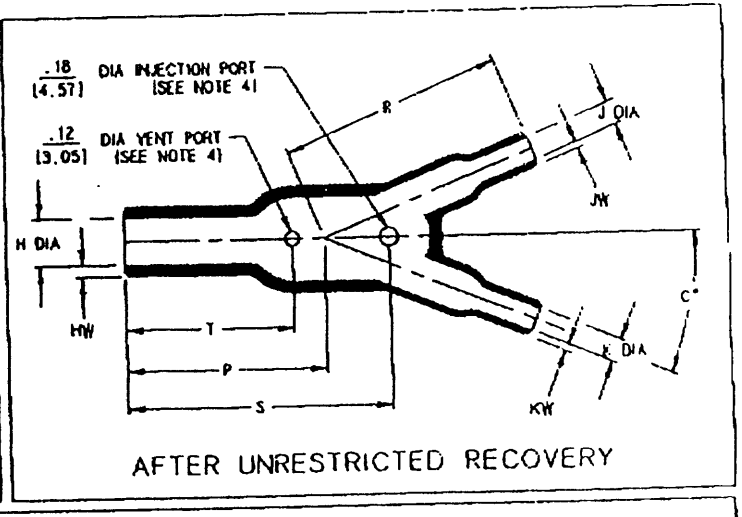
Part Number : 382A012 thru 046
Description : Transition, Y

NOTES

1. All dimensions are in $\frac{\text{inches}}{\text{(millimeters)}}$; $\frac{\text{lbs}}{\text{(gms)}}$
2. Dimensions appearing in table are as follows:
   - a - As Supplied
   - b - After Unrestricted Recovery
3. Coating is optional. As supplied dimensions appearing in table are for uncoated parts. When coating is added, entry diameters will be reduced by .06 max.
4. Molding ports are optional. When -00 modification number is specified molding ports will be located as shown.
5. Weight shown in table of dimensions is based on polyolefin part.



AS SUPPLIED



AFTER UNRESTRICTED RECOVERY

TABLE OF DIMENSIONS

PART NUMBER	H Min a	H Max b	J Min a	J Max b	K Min a	K Max b	P ±10% b	R ±10% b	S ±10% b	T ±10% b	HW ±20% b	JW & KW ±20% b	C ±5% b	Weight Nom b
382A012	.52 [13.2]	.24 [6.1]	.26 [6.6]	.13 [3.3]	.26 [6.6]	.13 [3.3]	.88 [22.4]	.76 [19.3]	.94 [23.9]	.61 [15.5]	.06 [1.52]	.04 [1.02]	22 1/2°	.004 [1.81]
382A023	1.06 [26.9]	.49 [12.4]	.52 [13.2]	.24 [6.1]	.52 [13.2]	.24 [6.1]	1.50 [38.1]	1.70 [43.2]	2.10 [53.3]	1.30 [33.0]	.10 [2.54]	.06 [1.52]	22 1/2°	.026 [11.79]
382A034	1.52 [38.6]	.71 [18.0]	1.06 [26.9]	.49 [12.4]	1.06 [26.9]	.49 [12.4]	2.58 [65.5]	3.10 [78.7]	3.10 [78.7]	2.20 [55.9]	.12 [3.05]	.10 [2.54]	22 1/2°	.141 [63.96]
382A046	2.19 [55.6]	1.02 [25.9]	1.06 [26.9]	.50 [12.7]	1.06 [26.9]	.50 [12.7]	3.35 [85.1]	3.70 [94.0]	4.40 [111.8]	2.80 [71.1]	.18 [4.57]	.10 [2.54]	22 1/2°	.249 [112.95]

Raychem
RAYCHEM CORPORATION
300 CONSTITUTION DRIVE
MENLO PARK, CALIFORNIA 94025

Revision : T
Date : 6/30/94

Part Number : 382A012 thru 046
Description : Transition, Y

460 307 to 314

RAYCHEM

THERMOFIT PRODUCT DIVISION

QUALITY ASSURANCE
SPECIFICATION RK6716

Issue: ONE
Date: 13.1.87

MOULDED COMPONENTS SEMI-RIGID POLYOLEFIN (-15)

Moulded components manufactured from cross-linked, electrically-insulating, semi-rigid polyolefin material

1. SCOPE

This Quality Assurance Specification establishes the quality standard for moulded components, manufactured from cross-linked, electrically-insulating, semi-rigid polyolefin material, whose dimensions will reduce to a pre-determined size upon the application of heat.

2. REQUIREMENTS

2.1 Composition and Appearance

The moulded components shall be homogeneous and free from pinholes, bubbles, cracks and inclusions.

2.2 Colour

The components shall be black, unless otherwise specified.

2.3 Properties

The components shall meet all the requirements contained in Table 1.

Approved Signatories:

Quality Assurance | Technical | Product Management

3. QUALITY ASSURANCE PROVISIONS

3.1 Classification of Tests

3.1.1 Class 1 Qualification

Class 1 Qualification tests are those performed on components submitted for qualification as a satisfactory product, and when a change of formulation takes place, and shall consist of all tests listed in this specification. In addition Qualification tests shall be carried out at a frequency satisfactory to the Inspection Authority.

3.1.2 Production Routine

Production Routine tests must be carried out on every batch of compound, and shall consist of the following: dimensions, tensile strength and ultimate elongation.

4. SAMPLING INSTRUCTIONS

4.1 Qualification Test Samples

Qualification test samples shall consist of six moulded plaques of dimensions approximately 150 x 150 x 2mm and the number of moulded components specified. The plaques and components shall be fabricated from the same batch of compound and subjected to the same degree of cross-linking.

4.2. Production Routine Test Samples

Production Routine Test samples shall consist of specimens cut from a moulded plaque and components selected at random.
Tests shall be carried out on samples taken from each batch of moulding compound. A batch of moulding compound is defined as that quantity of moulding material blended at one time. A batch of moulded components is defined as that quantity of moulded components of the same part number manufactured at any one time from the same batch of moulding compound.

5. TEST PROCEDURES

Unless otherwise specified, tests shall be carried out on a moulded test sheet of material 150mm x 150mm x 2.0 ± 0.3mm or on a moulded component of suitable size, recovered by conditioning in an oven at 150 ± 3 °C for 10 minutes and allowing to cool in air to ambient temperature.

5.1 Dimensions

Dimensions shall be in conformance with the appropriate Specification Control Drawing (SCD).

5.2 Tensile Strength and Ultimate Elongation

The test method shall be as specified in ISO 37. Five Type 2 dumbell specimens shall be tested. The test shall be carried out at a temperature of 23 ± 2 °C. The rate of jaw separation shall be 100 ± 10mm per minute.

5.3 Secant Modulus

The test method shall be as specified in Method A of ASTM D882. The test shall be carried out at a temperature of 23 ± 2°C. The initial jaw separation shall be 100mm and the rate of jaw separation 10 ± 1mm per minute.

5.4 Specific Gravity

The test method shall be as specified in Method A of ISO R1183.

5.5 Heat Shock

The test method shall be as specified in ASTM D2671. The test requirements shall be 4h ± 15m at 150 ± 5°C conditioning in a fan assisted air circulating oven. After conditioning the specimens shall be taken from the oven and cooled to room temperature and visually examined.

5.6 Heat Ageing

The test method shall be as specified in ISO R188. Depending upon the requirements of the Inspection Authority, either condition A or B shall apply. Either A, five tensile test specimens shall be conditioned at 120 ± 3°C for 168 ± 2hrs in a fan assisted air circulating oven.
Or B, five tensile test specimens shall be conditioned at 100 ± 2°C for 1000 ± 10 hrs in a fan assisted air circulating oven.

5.6
contd/ After conditioning the samples shall be removed from the oven, cooled to room temperature and tested for Tensile Strength and Ultimate Elongation in accordance with 5.2.

5.7 Low Temperature FLexibility

The test method shall be as specified in ASTM D2671. The ends of five strip specimens 150mm x 6mm shall be inserted 25mm into the bending device, (comprising two parallel grips set 65mm apart) securely holding the specimens in a loop position. The specimens and bending device, shall be conditioned for 4h $\pm$ 15m at -40 $\pm$ 2 ^{o}C in a cold chamber. While still at the low temperature, the grips shall be moved to a position 25mm apart in less than two seconds.

5.8 Dielectric Strength

The test method shall be as specified in IEC 243, (Short-term test).

5.9 Water Absorption

The test method shall be as specified in Procedure A of ISO R62. Three disc specimens of diameter 25 $\pm$ 1mm shall be used where possible.

5.10 Fluid Resistance

The test method shall be as specified in ISO 1817. Five tensile test specimens prepared as in Clause 5.2 shall be completely immersed in each of the fluids listed below for the time stated. The volume of the fluids shall be not less than 20 times that of the specimens. After conditioning the specimens shall be removed, lightly wiped and air dried at 23 ± 2°C for 45 ± 15m. The Tensile Strength and Ultimate Elongation of each specimen shall be determined as in Clause 5.2. The samples shall be exposed for 24 ± 2hrs at 23 ± 2°C to each of the test fluids listed below:

(i) Transmission Fluid SAE 85-90
(ii) Engine Oil SAE 20-50
(iii) Hydraulic Fluid J1703

In addition samples shall also be exposed for 30 ± 5 min at 23 ± 2°C in the fluids listed below

(i) Gasoline Automotive F46
(ii) Diesel Fluid F54
(iii) Cleaning Fluid TL6850-017
(iv) Antifreeze (Ethylene Glycol)

5.11 Fungus Resistance

The test method shall be as specified in ISO R846. The specimens shall be conditioned for 56 days followed by testing according to Clause 5.2.

6. PREPARATION FOR DELIVERY

6.1 Packaging

Packaging shall be in accordance with good commercial practice.

6.2 Marking

Each package shall bear an identification label showing quantity, part number and batch number. Additional information shall be supplied as specified in the contract or order.

7. RELATED DOCUMENTS

ASTM D882	Tensile Properties of Thin Plastic Sheeting
ASTM D2671	Testing Heat-Shrinkable Tubing
IEC 243	Recommended Methods of Test for Electric Strength of Solid Insulating Materials at Power Frequencies
ISO 37	Determination of Tensile Stress-Strain Properties of Vulcanized Rubber
ISO R62	Plastics - Determination of Water Absorption
ISO R188	Vulcanized Rubbers - Accelerated Ageing or Heat Resistance Tests
ISO R846	Plastics - Evaluation of Resistance of Plastics to Fungi
ISO R1183	Plastics - Method for Determining the Density and Relative Density (Specific Gravity) of Plastics excluding Cellular Plastics
ISO 1817	Vulcanized Rubbers - Resistance to Fluids - Methods of Test
DEF STAN 01-5	Fuels, Lubricants and Associated Products

QUALITY ASSURANCE SPECIFICATION RK6716 - ISSUE ONE

TABLE 1

REQUIREMENTS

PROPERTY	REQUIREMENT
PHYSICAL	
Dimensions	In accordance with the appropriate Specification Control Drawing (SCD)
Tensile Strength	10 MPa minimum
Ultimate Elongation	250% minimum
2% Secant Modulus	80 - 160 MPa
Specific Gravity	1.4 maximum
Heat Shock	No dripping, cracking or flowing at 150°C
Heat Ageing	
Tensile Strength	10 MPa minimum
Ultimate Elongation	200% minimum
Low Temperature Flexibility	No cracking at -40°C
ELECTRICAL	
Dielectric Strength	8 MV/m minimum
CHEMICAL	
Water Absorption	0.5% maximum
Fluid Resistance to:	
Transmission Fluid SAE 85-90	
Engine Oil SAE 20-50	
Hydraulic Fluid J1703	
Gasoline Automotive F46	
Diesel Fluid F54	
Cleaning Fluid TL6850-017	
Antifreeze (Ethylene Glycol)	
Tensile Strength	10 MPa minimum
Ultimate Elongation	200% minimum
Fungus Resistance	
Tensile Strength	10 MPa minimum
Ultimate Elongation	200% minimum

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