



ENGINEERING MATERIAL SPECIFICATION

POLYVINYL CHLORIDE (PVC), FLEXIBLE 80 A HARDNESS, EXTERIOR	WSK-M4D689-A1
POLYVINYL CHLORIDE (PVC), FLEXIBLE 85 A HARDNESS, EXTERIOR	WSK-M4D689-A2
POLYVINYL CHLORIDE (PVC), FLEXIBLE 90 A HARDNESS, EXTERIOR	WSK-M4D689-A3
POLYVINYL CHLORIDE (PVC), FLEXIBLE 95 A HARDNESS, EXTERIOR	WSK-M4D689-A4
POLYVINYL CHLORIDE (PVC), FLEXIBLE 75 A HARDNESS, EXTERIOR	WSK-M4D689-A5
POLYVINYL CHLORIDE (PVC), FLEXIBLE 65 A HARDNESS, EXTERIOR	WSK-M4D689-A6
POLYVINYL CHLORIDE (PVC), FLEXIBLE 60 A HARDNESS, EXTERIOR	WSK-M4D689-A7

1. SCOPE

The materials defined by these specifications are flexible polyvinyl chloride injection and/or extrusion molding compound.

2. APPLICATION

These specifications were released originally for materials used for exterior garnish moldings.

3. REQUIREMENTS

3.0 STANDARD REQUIREMENTS FOR PRODUCTION MATERIALS

Material suppliers and part producers must conform to the Company's Standard Requirements For Production Materials (WSS-M99P1111-A).

3.4 MOLDED TEST SPECIMEN

3.4.1 Preparation of Test Specimens

Unless otherwise specified, all test shall be conducted on specimens die cut from ungrained compression molded plaques 150 x 150 x 2.0 +/- 0.2 mm molded according to ISO 293.

3.4.2 Density, g/cm³, max (ISO 1183, Method A/ASTM D 792, Method A)

A1	A2	A3	A4	A5	A6	A7
1.35	1.40	1.45	1.45	1.35	1.35	1.35

Date	Action	Revisions
2007 05 11	Revised	Revised paragraph 3.5.1 M. Mehandru
2005 11 17	Revised	Inserted 3.0; Deleted 3.1, 3.2, 3.3, 3.7, 3.8 & 4
1992 04 01		Added A5 to A7 EP00E10176266000 L. Rouigas



- 3.4.3 Hardness, Durometer A
(ISO 868/ASTM D 2240, 6 mm thick plied-up specimens, 15 s delay)

A1	A2	A3	A4	A5	A6	A7
80 +/- 5	85 +/- 5	90 +/- 5	95 +/- 5	75 +/- 5	65 +/- 5	60 +/- 5

- 3.4.4 Tensile Strength at Break, MPa, min
(ISO R 527, type 2/ASTM D 638M, type M-II, 500 mm/min test speed)

A1	A2	A3	A4	A5	A6	A7
12	14	15	16	11	10	10

- 3.4.4.1 Elongation at Break, %, min
(Test Method according to para 3.4.4)

A1	A2	A3	A4	A5	A6	A7
220	180	160	150	240	250	250

- 3.4.5 Tear Strength, kN/m, min
(ISO 34, Method B, Procedure a/ASTM D 624, Die C)

A1	A2	A3	A4	A5	A6	A7
50	55	60	70	40	30	25

- 3.4.6 Cold Flexibility at -30 °C (A1 - A7)
(FLTM BN 102-01, except specimen 25 x 150 mm, minimum and 19-20 mm mandrel)
- No cracks

- 3.4.7 Color Stability (A1 - A7)
(ISO 188/ASTM D 573, 150 +/- 50 air changes/h, 168 h at 80 +/- 2 °C)

After exposure the material shall not exhibit color change in excess of AATCC rating 4 (AATCC Gray Scale for Evaluating Change in Color, 10 step).

In addition there shall be not be any staining, spewing, loss of gloss.

- 3.4.8 Heat Aging Performance (A1 - A7)
(ISO 188/ASTM D 573, 150 +/- 50 air changes/h, 1000 h at 80 +/- 2 °C. Unaged property values shall be determined at the time of the aged properties determination)

3.4.8.1 Tensile Strength Change
(Test Method per para 3.4.4) +/- 25%

3.4.8.2 Elongation Change
(Test Method per para 3.4.4) +/- 25%

3.4.8.3 Weight Change, max
(50 x 25 x 2 +/- 0.2 mm specimen) 10%

- 3.4.9 H2S Staining (A1 - A7)
(FLTM AN 102-01) Rating 5