| | |
|---|---|
| **TAPE WITH CLEARCOAT, URETHANE, PRESSURE SENSITIVE, CHIP RESISTANT, EXTERIOR, HIGH UV FOR HIGH IMPACT AREAS** | **WSS-M99J291-B1** |
| **TAPE WITH CLEARCOAT, URETHANE, PRESSURE SENSITIVE, CHIP RESISTANT, EXTERIOR, LOW UV FOR HIGH IMPACT AREAS** | **WSS-M99J291-B2** |
| **TAPE WITH CLEARCOAT, URETHANE, PRESSURE SENSITIVE, CHIP RESISTANT, EXTERIOR, HIGH UV FOR MODERATE IMPACT AREAS** | **WSS-M99J291-B3** |
| **TAPE WITH CLEARCOAT, URETHANE, PRESSURE SENSITIVE, CHIP RESISTANT, EXTERIOR, LOW UV FOR MODERATE IMPACT AREAS** | **WSS-M99J291-B4** |
| **TAPE, NON-TOPCOATED, URETHANE, PRESSURE SENSITIVE, CHIP RESISTANCE, NON- VISIBLE APPLICATIONS FOR HIGH IMPACT AREAS** | **WSS-M99J291-B5** |
| **TAPE, NON-TOPCOATED, URETHANE, PRESSURE SENSITIVE, CHIP RESISTANCE, NON- VISIBLE APPLICATIONS FOR MODERATE IMPACT AREAS** | **WSS-M99J291-B6** |

## 1. SCOPE

The material defined by these specifications is a clear, release liner backed, abrasion resistant urethane film with a water clear pressure sensitive adhesive. Films B1 - B4 include a clearcoat applied over the urethane film to prevent film staining, yellowing, and increases weathering performance. Films B5 and B6 are typically not clearcoated.

To differentiate between locations requiring chip resistant testing, a CAE model or equivalent will be used to determine chip performance based on vehicle design. Ford engineers will determine areas of high and low chip probability.

## 2. APPLICATION

These specifications were released to provide localized stone chip protection on painted body surfaces. A clean surface is recommended for tape application. A wetting solution (25% isopropyl alcohol/75% deionized water or S-802 Decal Lube or equivalent) may be recommended by the supplier to aid in application. Tape dimensions and premask (with or without) are specified on the engineering drawings.

## 3. REQUIREMENTS

All testing to be done on finished production parts (i.e., film to be used to design intent and application on production substrate/paint).

| Date | Action | Revisions | Rev.02 |
|---|---|---|---|
| 2017 06 27 | Editorial | Corrected footer | A. Collins, NA |
| 2016 12 2 | Revised | See Summary of Revisions | M. Jones, ENA |
| 2008 06 20 | Activated | | M. Jones, ENA |

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## 3.1 APPROVED SOURCES

This specification requires the use of approved sources. Only the sources identified on the Ford Approved Source List (ASL) can be used when this specification is listed on the drawing, CAD file, or other documents. The list of approved sources is located within Ford at www.mats.ford.com or available externally through a Ford Materials Engineer.

## 3.2 CONSTRUCTION

| | | |
|---|---|---|
| 3.2.1 | Width and Length | As specified on engineering drawing. |
| 3.2.2 | Premask | As specified on engineering drawing. |

## 3.3 FILM PROPERTIES

**Test Conditions:**

Material shall be conditioned in a controlled atmosphere of 23 +/- 2 °C and 50 +/- 5% relative humidity for not less than 24 hours prior to testing and tested under the same conditions unless otherwise specified.

3.3.1 Appearance < 2.0 DE

The film and adhesive shall be water clear and colorless. Color difference from a white panel (High Performance White 5V2AWHA, Performance White ZGFAWHA or equivalent) shall be 2.0 or less Delta E on a CMC 2:1 colorimeter scale.

| | | B1-B4 | B5/B6 |
|---|---|---|---|
| 3.3.2 | Gloss (unless otherwise specified) (FLTM BI 110-01, using a 60° glossmeter) | 80 min. | N/A |
| 3.3.3 | Tensile Strength, Min. (ASTM D 882, Method A, 25 x 150 mm sample, 25 mm distance between bench marks, jaw spaced at start 100 mm, pull rate 300 mm/minute, as measured at breaking point.) | 20 MPa | 20 MPa |
| | 3.3.3.1 Elongation, Min. | 250% | 250% |
| 3.3.4 | Tear Strength, Min. (ASTM D624, Die C) | 0.9 kg | 0.9 kg |

## 3.4 PERFORMANCE PROPERTIES

**Appearance After Exposure:**

In addition to any other requirements specified, the film after exposure per section 3.4.1 through 3.4.5 shall show no evidence of cracking, blistering, lifting, color change or gloss loss.

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