



Engineering Material Specification

Material Name	Specification Number
TAPE, PRESSURE SENSITIVE - HIGH TENSILE - PAPER	ESE-M3G115-A1 ESE-M3G115-A2

1. SCOPE

The material defined by this specification is a pressure sensitive, high tensile easy printable paper tape.

2. APPLICATION

This specification was released originally for material used for temporary labeling of parts such as catalytic converters and color identification tapes.

3. REQUIREMENTS

On part drawings that specify ESE-M3G115-A, ESE-M3G115-A1 is understood.

ESE-M3G115-A1 was ESE-M3G115-A Type I.

ESE-M3G115-A2 was ESE-M3G115-A Type II.

3.1 CONDITIONING

All test values indicated herein are based on material conditioned in a controlled atmosphere of $23 \pm 2^{\circ}\text{C}$ and $50 \pm 5\%$ relative humidity for 24 h prior to testing and tested under the same controlled conditions.

3.2 COLOR

A1

White or as specified on engineering drawing

A2

See Engineering Materials Approved Source List for color code identification

3.3 THICKNESS, in (mm) (ASTM D 1000)

0.007 ± 0.0006
 (0.18 ± 0.015)

0.006 ± 0.0005
 (0.15 ± 0.013)

3.4 TENSILE STRENGTH, lb/in (N/mm) width, min (ASTM D 1000)

3.4.1 Original Tensile

45.0 (7.9)

45.0 (7.9)

3.4.2 Aged Dry Tensile (Aged in oven 5 days at $66 \pm 3^{\circ}\text{C}$)

38.0 (6.7)

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3.4.3 Aged Wet Tensile

20.0 (3.5)

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Test Method: Age specimens in a $66 \pm 3^{\circ}\text{C}$ oven for 5 days. Cool and immerse in distilled water at $23 \pm 2^{\circ}\text{C}$ for 6 h. Remove, blot off excess water and pull immediately.

3.5 ELONGATION, % min (ASTM D 1000)

3.5.1 Original Elongation

4

4

3.5.2 Aged Elongation (Aged in oven 5 days at $66 \pm 3^{\circ}\text{C}$)

4

4

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	A1	A2
3.6 UNWIND PULL oz/in (N/m) width, max	30 (328)	30 (328)

Test Method: Place core of tape around a fixture which will allow it to revolve. Attach the free end of the tape to a 10 lb (44.5 N) max limit spring scale. Pull the tape from its roll at the rate of 12 in (305 mm)/min. Measure and record the unwind pull as a direct scale reading.

3.7 ADHESION TO BACKING, oz/in (N/m)	15 (164)	15 (164)
Width, min (ASTM D 1000, 12 in (305 mm)/min rate of pull)		

3.8 ADHESION TO STEEL, oz/in (N/m)	24 (263)	35 (383)
Width, min (ASTM D 1000, 12 in (305 mm)/min rate of pull)		

3.9 WATERFASTNESS OF DYE AND PRINTING INK	Shall be waterfast
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Test Method: Vigorously shake a 4 in (100 mm) strip of tape in 200 mL of distilled water at $23 \pm 2^{\circ}\text{C}$. Allow to stand in the water at $23 \pm 2^{\circ}\text{C}$ for 6 h. Any discoloration of the water will be cause for rejection.

3.10 FINISHED TAPE

The tape shall be wound evenly on rolls so that the surface of the roll shall be free from depressions. The tape shall have no liner over the adhesive and shall unroll evenly and uniformly without raveling. The adhesive material shall not separate from the backing so as to leave bare spots or show offsetting of the adhesive from one layer to another when the tape is unwound. When unwound from the roll, the tape shall remain reasonably flat with no tendency to curl transversely. The tape shall adhere snugly to work without wrinkling, curling, or buckling. The edges of the tape shall be straight, true and unbroken so as to provide sharp, distinct boundaries to finished areas.

3.11 SUPPLIER'S RESPONSIBILITY

Material supplied to this specification must be equivalent to that originally approved. Changes in formulation or processing shall not be made without prior approval as described in Supplier Procedure I-A.

4. APPROVAL OF SUPPLIERS

Suppliers to this specification must be approved by the affected product engineering office. Procedure for gaining approval of a specific material to a new/existing ES-M specification is contained in Supplier Procedure I-A. Approved new suppliers will be added to the Engineering Materials Approved Source List.