



Tie Strap

1 Introduction

Note: Nothing in this standard supercedes applicable laws and regulations.

Note: In the event of conflict between the English and domestic language, the English language shall take precedence.

1.1 Purpose. This standard covers the basic dimensional and general specifications together with the performance requirements applicable for plastic tie straps.

1.2 Applicability. The tie straps shall be used for bundling and binding together wires, cables, tubes, etc., or combinations thereof as required, in a wide range of automotive applications.

1.3 Remarks. Designation to be GMW3248 × Overall Length (in millimeters).

Example: GMW3248 × 200.

2 References

Note: Only the latest approved standards are applicable unless otherwise specified.

2.1 External Standards/Specifications.

ISO/TS 16949

2.2 GM Standards/Specifications.

GMW3059

GMW16036

2.3 Additional References. None.

3 Requirements

3.1 Name. Tie Strap. See Figure 1.

Figure 1: Tie Strap

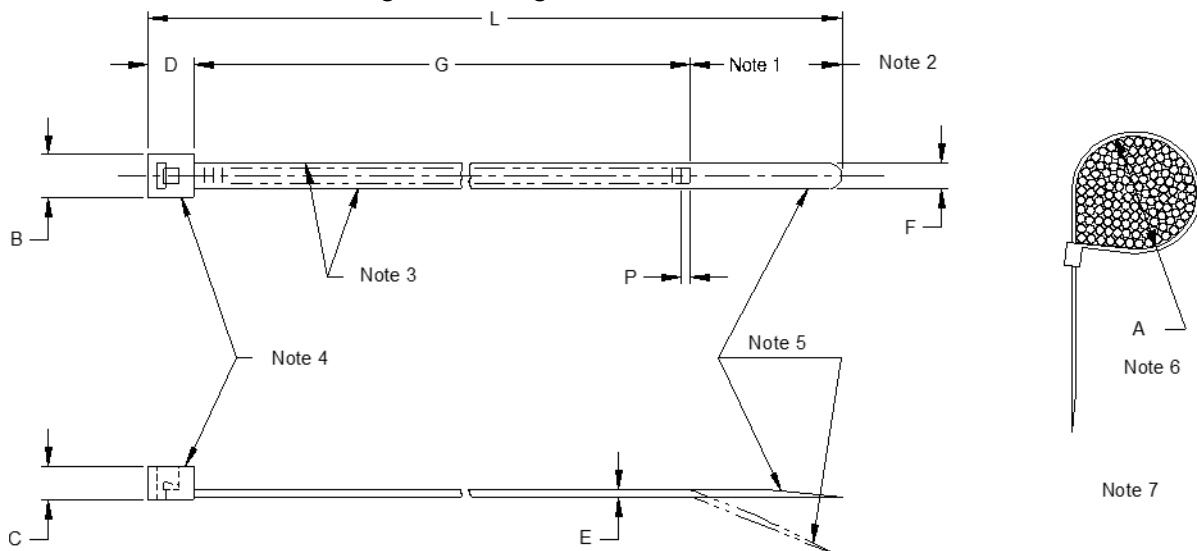


3.2 Dimensions. The design details of the band adjusting elements, such as solid, (notched or grooved) and the dimensional characteristics thereof shall be optional with the manufacturer, providing they are within the tabulated envelopes (see Figure 2) and meet the performance requirements and the following provisions.

3.2.1 Band End. The end of bands must be scored, serrated or otherwise roughened or contoured over a 25 mm minimum length which is considered adequate to provide a positive finger grip for hand binding purposes. In addition, the end may be tapered or rounded in either or both the wide and narrow planes and be straight, bent or curved in the narrow plane to facilitate assembly.

3.2.2 Band Edges. The edges of bands that contact bound components shall be rounded or relieved sufficiently to avoid any cutting action and to minimize chaffing.

Figure 2: Design Dimensional Characteristics



Note 1: 25 mm minimum.

Note 2: Finger grip length.

Note 3: Edges of band to be rounded or relieved.

Note 4: Design details of retaining provision and band adjusting elements optional.

Note 5: End contours and curved tip optional.

Note 6: Bundling Diameter.

Note 7: Assembled Strap.

Note: Dimensions A thru P serve only as guidelines for part drawing dimensions

3.3 Material. General purpose heat stabilized Nylon to GMW16036, Color, Black. Production straps shall be supplied with a 2.0% minimum water content by mass.

3.4 Temperature Limitations. Straps may be used in underhood or other locations where the stabilized operating temperature does not exceed 105 °C.

3.5 Workmanship. Straps shall be uniform in density and be free of any porosity, cracks or other defects detrimental to their functionality. Consistent with good workmanship, they shall be reasonably free from gates, excessive flash, ridges and blisters.

3.6 Acceptability. Per ISO/TS 16949, GM Production Part Approval Process (PPAP).

3.7 Marking. Straps shall be permanently and legibly marked with raised manufacturer's and mold cavity identification. The location of markings shall be optional.

3.8 Test Methods.

3.8.1 Performance Requirements. Tie Straps shall meet the performance test requirements. Prior to testing, straps must be conditioned to contain 2.25% to 2.50% water content by mass.

3.8.2 Assembly Test. Samples shall be tested to determine the pull force necessary to assemble band into the retaining feature. Straps shall be mounted singularly with the finger grip portion passing through the retaining feature into a suitable pull test fixture that restrains the retention portion at the sides and is capable of measuring the pull force applied to the end of band. See Figure 3.

The pull force required to engage the first three (3) teeth or other band adjusting grip elements shall not exceed 13 N.