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Prov. Specn. No. DMSRDE/T&GS/93/406

SPECIFICATION (PROVISIONAL) TO GOVERN
MANUFACTURE, QUALITY ASSURANCE & SUPPLY
OF
BUCKLES PLASTIC QUICK RELEASE, 40 mm

ISSUED BY

THE DIRECTOR

DMSRDE, KANPUR - 208 013

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SCOPE

1.1 This specification governs manufacture, Quality Assurance and supply of Buick Plastic Quick Release 40mm as per drawing.

2. MATERIAL

2.1 The material shall be Acetal Homopolymer resin of injection moulding grade in natural colour, essentially Poly Formaldehyde as per this specification.

2.2 It shall consists of granules of uniform appearance and of uniform size and shape, suitable for processing by injection moulding and shall be free from foreign matter.

2.3 The material shall be tested for the under mentioned requirements and shall conform as per the characteristics given against them :-

- i) Specific Gravity - 1.42
- ii) Tensile strength - 70 mpa (min.)
- iii) Elongation at break - 25-50 Percent
- iv) Tensile Modulus - 3.4 Gpa (min.)
- v) Hardness Rockwell - R 120 ± 5

The mechanical tests are to be carried out at a cross-head speed of 5mm/min. in an ambient temperature of $23 \pm 2^\circ\text{C}$ and relative humidity 50 percent.

NOTE : These tests will be carried out for every batch/bag of material.

2.4 The material must be procured in sealed bags/containers, from the dealers/manufacturers.

2.5 During manufacture, samples will be drawn by Quality Assurance Officer for testing. The tensile test pieces for evaluation of mechanical characteristics are to be moulded by the supplier in presence of Quality Assurance Officer.

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MANUFACTURE OF BUCKLE

The buckles shall be injection moulded in a semi/automatic (screw type) injection moulding machine.

3.2 All the moulding parameters must be accurately controlled specially temperature, time and pressure.

3.3 The moulded buckles must be within the dimensional tolerances specified on the relevant drawing.

3.4 Care must be taken to avoid contamination from foreign matter including degraded material, moulds and hoppers must be kept clean and the hoppers adequately covered.

3.5 The materials must be properly in molten state during moulding so as to avoid lamination due to mixing of molten and unmolten material.

4. WORKMAN SHIP AND FINISH


4.1 The surface finish and dimensions of the buckles moulded should be in accordance with the relevant buckle drawing.

4.2 The buckles should be clean and free from scale, laminations, cracks, blow holes, inclusions or other defects. The surface should be smooth all over and free from burrs/flash.

5. PULL LOAD TESTS OF BUCKLES

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5.1 A minimum of 10 ⁱⁿ ~~in~~ ~~periods~~ ~~in~~ ~~one~~ batch of mouldings of buckle shall be tested for breaking load by applying static load in axial direction at a speed of 110 mm/min. The breaking load shall not be less than 800 N. The male and female parts shall not come out due to slippage without breakage in any case.


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