

**ACRYLIC STYRENE ACRYLONITRILE — EXTRUSION GRADE,
HIGH IMPACT, WEATHER RESISTANT, BLACK
GMP.ASA + PVC.001**

1 SCOPE. This specification covers the properties of a pellet form, extrusion molding grade, high impact, weather resistant, black poly(acrylic styrene acrylonitrile) alloy. The alloying polymer is poly(vinyl chloride).

2 TEST PROCEDURES. Tests shall be conducted using the latest issue of the test methods indicated. Suitable precautions should be taken to ensure that applicable safe limits are not exceeded when conducting test procedures, processes, and/or handling the materials required by this specification.

2.1 Test specimens shall be injection molded according to ASTM D1897 using side-gated test molds. Test specimens shall be 3.2 ± 0.2 mm thick unless otherwise specified.

2.2 Tests shall be conducted 40 h min after molding and immediately following a conditioning period of 24 h min at 22 ± 3 C and $50 \pm 5\%$ RH unless otherwise specified. All testing shall be done on unannealed samples.

2.3 Evaluating Lightfast Properties.

2.3.1 Color of each test specimen shall be measured before and after exposure per SAE J1545, CIELAB color space, 10° observer, Illuminant D65, specular included.

2.3.2 Gloss of each test specimen shall be measured before and after exposure per ASTM D523.

2.3.3 Prior to making measurements and observations on weathered specimens, wash the specimens with a solution consisting of 2 g of Original DuPont Formula #7 Car Wash Concentrate (made by Borden, Inc.) and 1 L of water at 22 ± 3 C. Use a soft sponge saturated with the solution and scrub the samples with firm action.

3 COMPOUND PROPERTIES. (See Table 1)

4 SUGGESTED COMPOUND VERIFICATION. Inherent compound properties and test procedures that may be used to

identify this material are listed below. The test value and test procedure requirements are identical to those listed in Section 3, Compound Properties.

Melt Flow Rate
Specific Gravity
Infrared Characterization Scan

5 COMPOUND AND SOURCE APPROVAL. Each vehicle group and component division will have its own approved compound list derived from the corporate plastics file. No shipment shall be made by a new source until a sample of the compound manufactured at a production facility has been approved by the appropriate vehicle group and/or component division. Shipment receipt and certification requirements will vary among receiving locations.

5.1 Completed copies of the GM Material Safety Data Sheet and Critical Material Register (available from a GM laboratory or engineering department) must be submitted with any new submissions or where a composition change has occurred.

6 IDENTIFICATION. The molding compound shall be identified by the GM corporate specification code and the manufacturer's identification code and lot number, along with any additional vehicle group and component division requirements.

7 INSPECTION AND REJECTION. The purchaser reserves the right to sample incoming shipments even though it is the responsibility of the supplier to meet the requirements stated without dependence upon the purchaser's inspection. The supplier (whether prime contractor or subcontractor) will forfeit qualification if a change is made in material, processing methods, testing methods, or location of manufacture without prior written request to and subsequent approval from the purchaser.

8 GENERAL INFORMATION. This newly issued standard was originated by CPC.

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TABLE 1 - COMPOUND PROPERTIES (BLACK)

Property	Test Value (SI units)	Test Method
Melt Flow Rate	1.6 ± 0.5 g/10 minutes	ASTM D1238, 200/11.2
Specific Gravity	1.19 - 1.23	ASTM D792
Weather Resistance Color Change, ΔE Gloss Change	3.0 units max 20% max (see NOTE)	1 year exposure to direct weather in Florida per ASTM 67.5°, open rack. Measure color and gloss per 2.3.
Accelerated Weather Resistance Color Change, ΔE Gloss Change	1.5 units max 20% max (see NOTE)	GM9125P, Xenon Arc Weather-Ometer. Exterior Low Temperature Method, 2500 kJ/m ² at 340 nm. Measure color and gloss per 2.3.
Heat Deflection Temperature at 1820 kPa	63 C min	ASTM D648, unannealed
Tensile Stress at Yield	45 MPa min	ASTM D648, Type I bar, 50 mm/minute
Elongation at Break	35% min	ASTM D638, Type I bar, 50 mm/minute
Flexural Modulus	1900 MPa min	ASTM D790, Method I, tangent calculation, 6.4 mm thick bar, 102 mm span, 25 mm/minute
Notched Izod Impact	640 J/m min	ASTM D256, Method A

NOTE: Samples shall not show any surface cracking, blooming or objectionable gloss change after exposure. Visual color change which is considered objectionable will override the ΔE value.