

IS 13213 : 2018 Polyurethane Full Gloss Enamel (Two Pack) — Specification (First Revision)

Polyurethane full gloss enamel is a two-pack coating system primarily intended for use as a protective topcoat on railway coaches, diesel, and electric locomotives to guard against atmospheric corrosion. Known for its high durability and long-lasting color and gloss retention, it is also widely used in heavy vehicles such as buses. This enamel is highly resistant to chemical, environmental, and physical damage, providing robust protection in wet, humid, coastal, and industrial environments.

The Indian Standard for this product, IS 13213, was first published in 1991 and revised in 2018. This revision introduces a lead restriction limit of 90 ppm to minimize health and environmental risks. The standard prescribes requirements for the composition, durability, and application of the two components: an enamel base containing acrylic polyol and pigments, and a hardener with an aliphatic poly-isocyanate. Both components are mixed in a specific ratio and must be used within 4 hours.

The standard outlines testing requirements, including film thickness, drying time, flexibility, adhesion, and resistance to chemicals and weathering. The material must pass accelerated weathering tests in xenon arc or QUV apparatus to ensure lasting performance. Packaging and marking regulations mandate clear labeling with safety warnings due to the paint's toxicity and flammability, including instructions to keep out of reach of children and precautions for safe handling.

Sampling and testing protocols are detailed to ensure consistency in quality, with a focus on durability and environmental resistance as core compliance criteria.