

FOAM AND MATERIALS IN PLENUMS

2024 IMC 602.3.7-602.4 | Product and assembly check

First identify whether the space actually conveys supply, return, exhaust, relief or ventilation air. Then classify each exposed material. An exposed foam finish or trim does not qualify on a 25/50 report alone.

1 Exposed foam finish or trim - cumulative requirements

- At maximum thickness and density intended for use, ASTM E84 or UL 723 must show flame spread ≤ 25 and smoke developed ≤ 50 .
- The foam must also pass NFPA 286 using IBC 803.1.1 acceptance criteria. Approval based on tests under IBC 2603.9 can replace only the NFPA 286 test; the 25/50 requirement remains.

2 Protected foam - separate exception path

- At maximum intended thickness and density, ASTM E84 or UL 723 must show flame spread ≤ 75 and smoke developed ≤ 450 and the foam must be separated from plenum airflow.
- The separator must be an IBC 2603.4 thermal barrier, corrosion-resistant steel with base metal thickness ≥ 0.0160 in., or masonry/concrete ≥ 1 in. Show the continuous installed detail.

3 Do not transfer one product's route to another

- Plastic plumbing piping/tubing has its own listed 25/50 route; UL 2846 applies to qualifying listed water-distribution piping installed per its listing. Plastic sprinkler piping, discrete products and insulation have distinct IMC 602.3 paths.
- Discrete electrical/plumbing/mechanical products with exposed combustibles generally need UL 2043 plenum listing; metallic electrical enclosures have a stated exception. A UL 2043 device label does not approve adjacent foam or piping.

4 Keep flood review separate

- Under 602.4, locate a flood-hazard plenum above the IBC 1612 utility elevation or document the permitted water-entry and hydrostatic/hydrodynamic/buoyancy-resistance design below it.

Bring: reflected ceiling plan, exact foam product and maximum installed thickness/density, both test/approval reports or protected-barrier detail, separate piping/device listings, and flood elevation where applicable.

Source: ICC 2024 IMC Chapter 6, §602.3.7-602.4, checked 2026-10-15. This educational packet is not a product listing, approval, permit or determination of locally adopted code.