Electrical Safety Glossary

Conduit with supplementary PVC is used as raceway systems for electrical wiring in residential, commercial, and industrial applications. This information includes data on fittings and other applicable accessories necessary for a quality installation of these raceways. All information in this publication is intended to comply with the National Electrical Code® (NFPA Standard 70). Installers should always follow the NEC and/or state and local codes as applicable to the jurisdiction, and the manufacturers' instructions when installing electrical products and systems.
Maintaining the effectiveness of Code requirements depends on selecting the right product for the specific job, good installation workmanship, and proper maintenance during the life cycle.
This document is intended to enhance electrical safety by aiding in reducing future repair needs, providing for future expansion to avoid electrical overload, creating an installation which will protect the wire conductors from mechanical abuse, and providing electrical continuity of the raceway system.

Definitions:

Alternate corrosion protection
A coating other than one consisting solely of zinc, which has demonstrated the ability to provide the level of corrosion resistance required on the exterior of the conduit. It is not prohibited that the coatings include zinc.

Approved
Acceptable to the authority having jurisdiction.
NOTE: "The authority having jurisdiction" is most often the electrical inspector, but could be a project manager or other final approval authority.

Authority having jurisdiction (AHJ)
The organization, office, or individual with the authority to determine which code requirements apply, how they are to be interpreted, and who gives final approval to the electrical installation. Some examples are the electrical inspector or other government entity and insurance underwriters.

Bend
A curvature of the conduit or tubing made so the raceway will fit a specific geometric location. This can be a factory elbow or can be a field bend of the raceway.

Circuit loading
Concentration of circuits in one raceway.

Conduit connection
Interface between conduit or tubing and other equipment.

Conduit joint

The coupling of two pieces of conduit or tubing, or coupling a length of conduit or tubing to a bend. NOTE: One of the most important elements of an electrical installation.

Coupling, integral
A coupling meeting the requirements of UL 514B which is assembled to the conduit, tubing, or elbow during manufacture and is not readily removable. The integral coupling of electrical metallic tubing is a “belled” end with set screws.

Coupling, standard conduit
As applied to IMC or steel RMC this is a threaded, straight-tapped means of joining two pieces of conduit. Such coupling meets the requirements of the applicable UL conduit standard.

Equipment grounding conductor
As defined in the NEC. In addition, it is the path by which a fault is transmitted to the overcurrent protection device. NOTE: Steel conduit and tubing are called equipment-grounding conductors, as are copper or aluminum wire.

Fire stopping
Using approved materials (generally detailed by building codes or specifications), which fill the opening (annular space) around the conduit to prevent the spread of fire and smoke and assure the fire rating of the wall, floor, or ceiling being penetrated is not reduced.

Fire-resistance-rated assemblies
Construction materials assembled together, then tested and rated for ability to inhibit the spread of fire for a specified period of time under specific test conditions. The rating is expressed in hours; e.g. 1 hour, 2 hour, etc. Information can be found in various laboratory “listing” directories.

Fitting, threadless
A fitting intended to secure, without threading, rigid or intermediate metal conduit or electrical metallic tubing to another piece of equipment (connector) or to an adjacent length of conduit or tubing (coupling).

Galvanized
Protected from corrosion by a specified coating of zinc which may be applied by either the hot-dip or electro-galvanized method.

Home run
The run of raceway between the panelboard/switchboard and the first distribution point.
Identified (for use)
As defined in the NEC.
NOTE: For the purposes of this standard the product has been evaluated for a specific purpose, environment or application and written documentation or labeling verifying this exists.

Penetration firestop system
A listed assemblage of specific materials or products that are designed, tested and fire resistance-rated in accordance with ASTM E814 to resist, for a prescribed period of time, the spread of fire through penetrations in fire-rated assemblies.

Primary coating
The corrosion protection coating evaluated by the listing authority and required by the applicable standard for listing.

Running threads
Continuous straight threads cut into a conduit and extended down its length – not permitted on conduit for connection at couplings.

Raceway
As defined in the NEC, this term includes more than steel conduit. In this standard it is steel rigid metal conduit, intermediate metal conduit, or electrical metallic tubing, designed for enclosing and protecting electrical, communications, signaling and optical fiber wires and cables.

Supplementary coating
A coating other than the primary coating applied to listed conduit/tubing either at the factory or in the field to provide additional corrosion protection where needed.

Steel Conduit and Tubing
The wall thickness and strength of steel make RMC, IMC, and EMT the wiring methods recognized as providing the most mechanical protection to the enclosed wire conductors. Additionally, a properly installed steel RMC, IMC or EMT system is recognized by the NEC as providing its own equipment-grounding path.

PVC-coated conduit
Manufactured Elbows, Nipples, and Couplings

Factory elbows
Elbows are bent sections of conduit or tubing used to change raceway direction or bypass obstructions. IMC and RMC elbows are threaded on each end. Elbows of the correct type and dimensions are an important element of the raceway installation. Factory-made elbows in both standard and special radius are readily available for all sizes of steel RMC, IMC, and EMT. Elbows with integral couplings are available in trade sizes 2-1/2 through 4. Specialized large radius elbows, often referred to as “sweeps,” are also available. They are custom ordered to solve various installation problems. Some typical uses of sweeps are to facilitate easier wire pulling, install conduit in limited or geometrically difficult space, provide specific stub- up length, or enhance protection of communication or fiber optic cables during pulls.
Physical dimensions of factory-made elbows for RMC, IMC, and EMT vary between

manufacturers.
When installing factory elbows for a job, being aware of this variability can avoid installation problems. Always measure to be safe. To order factory elbows, you need to specify the raceway type, trade size, and angle of bend. If ordering a special radius elbow, the radius will also have to be specified.

Nipples
A nipple is a short length of conduit or tubing material that is used to extend the system. Nipples are used between conduit and items such as (but not limited to) fittings, boxes, and enclosures or between two boxes, two enclosures,
Etc. When nipples are used to extend a conduit run to an enclosure, box, etc., the percentage wire fill requirements apply; for example, 40-percent fill for three or more conductors.
When a nipple is installed between boxes, enclosures, etc. and the nipple does not exceed 24 inches (610 mm), wire fill is permitted to be 60%. Factory-made RMC nipples are threaded on both ends and are readily available in all sizes in lengths 12 inches (305 mm) and under. Longer lengths are available by special order or may be field-fabricated.

Couplings
Each length of steel RMC and IMC is furnished with a coupling on one end. Additional threaded couplings are readily available for all conduit sizes. Steel RMC and IMC with an integral coupling are available in trade sizes 2-1/2 through 4. This is a coupling which permits joint make-up by turning the outside coupling rather than the conduit EMT with an integral coupling is available in trade sizes 1-1/4 through 4. The EMT has a belled end with set-screws for threadless fittings for use with RMC, IMC, and EMT.