Excerpted from TIA 569-C

6.7.4 Installation
Cabling system performance is sensitive to the arrangement of slack cable behind the equipment outlet. Sufficient space shall be provided so that bend radius requirements are not violated in these termination spaces. The location, mounting, and strain relief of the equipment outlet should allow pathway covers and trim to be removed without disturbing the cable termination. Equipment outlets should be mounted in such a way that they do not reduce the required pathway cabling capacity.

6.7.5 Outlet box
If an outlet box is used, it shall be no smaller than 50 mm (2 in) wide, 75 mm (3 in) high, and 64 mm (2.5 in) deep. This box will accommodate one or two metric designator 21 (trade size ¾) conduits. Where a larger conduit is required, the box size shall be increased accordingly. Specialty boxes may be used in place of the above as appropriate. Supports for attaching the outlet box and a suitable cover plate shall be provided.

9.11 Perimeter raceways
9.11.1 Construction
Surface raceway systems consist of bases, covers, associated fittings, and accessories. Fittings (e.g., coupler, corner, end cap, adapter, device box) shall be used to connect, change direction, or terminate a surface raceway. Accessories shall provide the means of mounting specific or generic devices (e.g., service area outlet, conduit connection) either internal or external to the raceway system.
Surface raceway systems shall be configured as either single-channel or multi-channel systems. Single-channel systems shall be designed and used for either telecommunications cabling or power cabling. Multi-channel systems shall contain divider wall(s), either preconfigured or modular.

Under conditions of maximum fill, surface raceway systems shall not force cable into a bend radius that is less than the greater of:
a) the minimum bend radius requirement of ANSI/TIA-568-C.0;
b) the manufacturer's recommended minimum bend radius; or
c) 25 mm (1 in).
Surface raceways may have square, rectangular, triangular or semi-circular cross-sectional areas while covers may be flat, concave or convex.

9.11.2 Design and installation requirements
9.11.2.1 Surface raceway system sizing
9.11.2.1.1 Pathway sizing
For planning perimeter pathways, the maximum pathway fill shall be 40%. Pathway (raceway) fill is calculated by dividing the summation of the cross-sectional area of all cables by the most restrictive cross-sectional area of the raceway system. This fill capacity does not consider the additional constrictions caused by service area outlets. Raceway manufacturers shall provide the internal cross-sectional area of each pathway component. Sizing a raceway using 40% cable fill will facilitate the installation of typical telecommunications cables and outlets/connectors as well as provide space for future modifications and expansion to the cabling system.

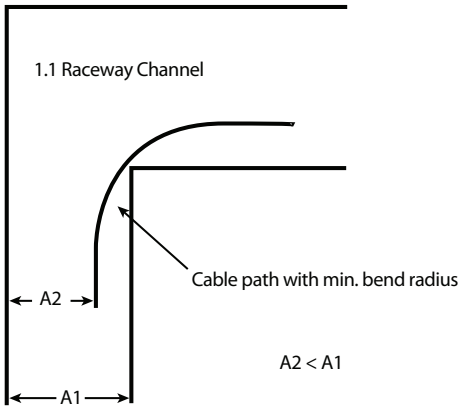

Figure 17 - Reduction of raceway capacity at sharp corners

NOTE – Some raceway fittings and telecommunications outlets/connectors restrict the cross-section of the raceway system (see 9.11.2.1.2 and 9.11.2.1.3).

9.11.2.1.2 Raceway fittings
If the usable cross-section of a raceway system is reduced at fittings in order to maintain the proper bend radius for telecommunications cables, the raceway manufacturer shall make available the resultant cross-sectional area through the fitting based on cable bend radius (e.g., cross-sectional area should be calculated using A2 dimension instead of A1 dimension per figure 17).

Figure 17 – Reduction of raceway capacity at sharp corners

9.11.2.1.3 Equipment outlets
Equipment outlets mounted internal to a raceway reduce the available cross-sectional area of a raceway system. Designers and installers should consider that the connector may restrict the available cable capacity around the connector.

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