368.234 Barriers and Seals.

(A) Vapor Seals. Busway runs that have sections located both inside and outside of buildings shall have a vapor seal at the building wall to prevent interchange of air between indoor and outdoor sections.

Exception: Vapor seals shall not be required in forced-cooled bus.

(B) Fire Barriers. Fire barriers shall be provided where fire walls, floors, or ceilings are penetrated.

Informational Note: See 300.21 for information concerning the spread of fire or products of combustion.

368.236 Drain Facilities. Drain plugs, filter drains, or similar methods shall be provided to remove condensed moisture from low points in busway run.

368.237 Ventilated Bus Enclosures. Ventilated busway enclosures shall be installed in accordance with Article 110, Part III, and 495.24.

368.238 Terminations and Connections. Where bus enclosures terminate at machines cooled by flammable gas, seal-off bushings, baffles, or other means shall be provided to prevent accumulation of flammable gas in the busway enclosures.

All conductor termination and connection hardware shall be accessible for installation, connection, and maintenance.

368.239 Switches. Switching devices or disconnecting links provided in the busway run shall have the same momentary rating as the busway. Disconnecting links shall be plainly marked to be removable only when bus is de-energized. Switching devices that are not load-break shall be interlocked to prevent operation under load, and disconnecting link enclosures shall be interlocked to prevent access to energized parts.

368.240 Wiring 1000 Volts or Less, Nominal. Secondary control devices and wiring that are provided as part of the metal-enclosed bus run shall be insulated by fire-retardant barriers from all primary circuit elements with the exception of short lengths of wire, such as at instrument transformer terminals.

368.244 Expansion Fittings. Flexible or expansion connections shall be provided in long, straight runs of bus to allow for temperature expansion or contraction, or where the busway run crosses building vibration insulation joints.

368.258 Neutral Conductor. Neutral bus, where required, shall be sized to carry all neutral load current, including harmonic currents, and shall have adequate momentary and short-circuit current rating consistent with system requirements.

368.260 Grounding. Metal-enclosed busway shall be grounded.

368.320 Marking. Each busway run shall be provided with a permanent nameplate on which the following information shall be provided:

(1) Rated voltage.
(2) Rated continuous current; if bus is forced-cooled, both the normal forced-cooled rating and the self-cooled (not forced-cooled) rating for the same temperature rise shall be given.
(3) Rated frequency.
(4) Rated impulse withstand voltage.
(5) Rated 60-Hz withstand voltage (dry).
(6) Rated momentary current.
(7) Manufacturer's name or trademark.

Informational Note: See IEEE C37.23-2015, *IEEE Standard for Metal-Enclosed Bus*, for construction and testing requirements for metal-enclosed bus assemblies.

N ARTICLE 369 Insulated Bus Pipe (IBP)/Tubular Covered Conductors (TCC) Systems

N Part I. General

N 369.1 Scope. This article covers the use, installation, and construction specifications for insulated bus pipe (IBP) systems.

New Article 369 has been created to establish requirements for the installation of insulated bus pipe (IBP), which is also known as tubular covered conductor (TCC). This article requires IBP to be listed and installed by qualified persons. A manufacturer supplied terminating means must be utilized for all system connections or terminations. All documentation must be available to the AHJ.

N 369.2 Reconditioned Equipment. IBP and IBP systems shall not be reconditioned.

N 369.6 Listing Requirements. IBP and IBP systems shall be listed.

N Part II. Installation

N 369.10 Uses Permitted. IBP systems shall be permitted for use on power systems in accordance with the following:

(1) As exposed runs in accordance with 305.3.
(2) In wet or damp locations only when listed for such use.
(3) Installed through walls, in unbroken lengths. Where IBP penetrates an exterior wall, the entire length that penetrates the wall shall be listed for outdoor use, and the opening in the wall shall be sealed by an approved method.

(4) Extended vertically through dry floors if totally enclosed in metal where passing through the floor and for a minimum distance of 1.8 m (6 ft) above the floor to provide protection from physical damage.
(5) For voltages up to and including 35,000 volts ac nominal.

N **369.12 Uses Not Permitted.** IBP systems shall not be used under the following conditions:

(1) In any hazardous (classified) location except as permitted by other articles in this *Code*
(2) For the support of luminaires or other equipment
(3) Where concealed by the building structure
(4) Where accessible to other than qualified person(s)

N **369.14 Installation.** IBP systems shall be installed by qualified persons. All documentation shall be available to the authority having jurisdiction.

N **369.20 Termination or Connections.** Manufacturer's supplied terminating means shall be used for IBP system connections or terminations. Connections employing dissimilar metals shall be avoided to eliminate the possibility of galvanic action.

Informational Note No. 1: See 110.14(C) for conductor temperature limitations due to termination provisions for installations up to and including 2000 volts.

Informational Note No. 2: See 110.40 for conductor temperature limitations due to termination provisions for installations 2001 volts to 35,000 volts.

N **369.80 Ampacity.** IBP systems shall be used within the marked ampacity of the IBP.

N **369.90 Temperature Rating.** IBP systems shall be used within the maximum rated conductor temperature.

N Part III. Construction Specifications

N **369.100 Construction.** The IBP conductor shall be aluminum or copper. The bus pipe shall be permitted to be solid or hollow.

N **369.110 Barriers.** Fire barriers shall be provided where fire walls, floors, or ceilings are penetrated.

Informational Note: See 300.21 for information concerning the spread of fire or products of combustion.

N **369.120 Marking.** All IBP shall be marked to indicate the following information:

(1) The maximum rated voltage phase-to-phase or phase-to-ground
(2) The maximum rated ampacity
(3) The manufacturer's name, trademark, or other distinctive marking by which the organization responsible for the product can be readily identified
(4) The equivalent AWG size or circular mil area of the conductor
(5) The maximum rated conductor temperature
(6) The rated peak withstand current rating in rms symmetrical amperes or kA
(7) Enclosure type designation, if other than Type 1
(8) Rated short-time withstand current and duration if greater than 2 seconds

ARTICLE
370 Cablebus

Part I. General

370.1 Scope. This article covers the use and installation requirements of cablebus and associated fittings.

Cablebus consists of a metal structure or framework installed in a manner similar to that of a cable tray support system. As illustrated in Exhibit 370.1, continuous runs of insulated conductors of 1/0 AWG or larger are field installed within the framework on special insulating blocks at specified intervals to provide controlled spacing between conductors. A ventilated top cover is attached to the framework to completely enclose the conductors.

Part II. Installation

Δ **370.10 Uses Permitted.** Cablebus shall be permitted as follows:

(1) At any voltage or current for which spaced conductors are rated and where installed only for exposed work, except as permitted in 370.18
(2) For branch circuits, feeders, and services
(3) To be installed indoors, outdoors, or in corrosive, wet, or damp locations where identified for the use

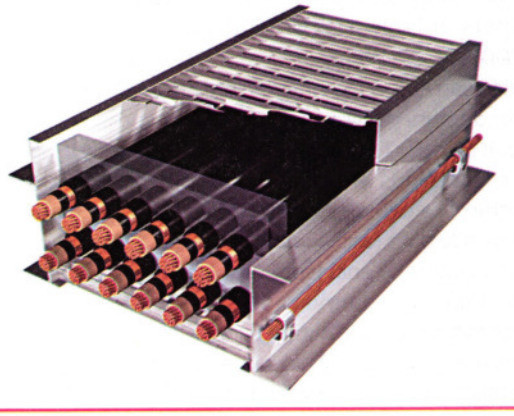

EXHIBIT 370.1 A section of cablebus with conductors in place and the ventilated top cover ready to be attached to the busway frame. *(Courtesy of MP Husky Cable Bus & Cable Tray)*