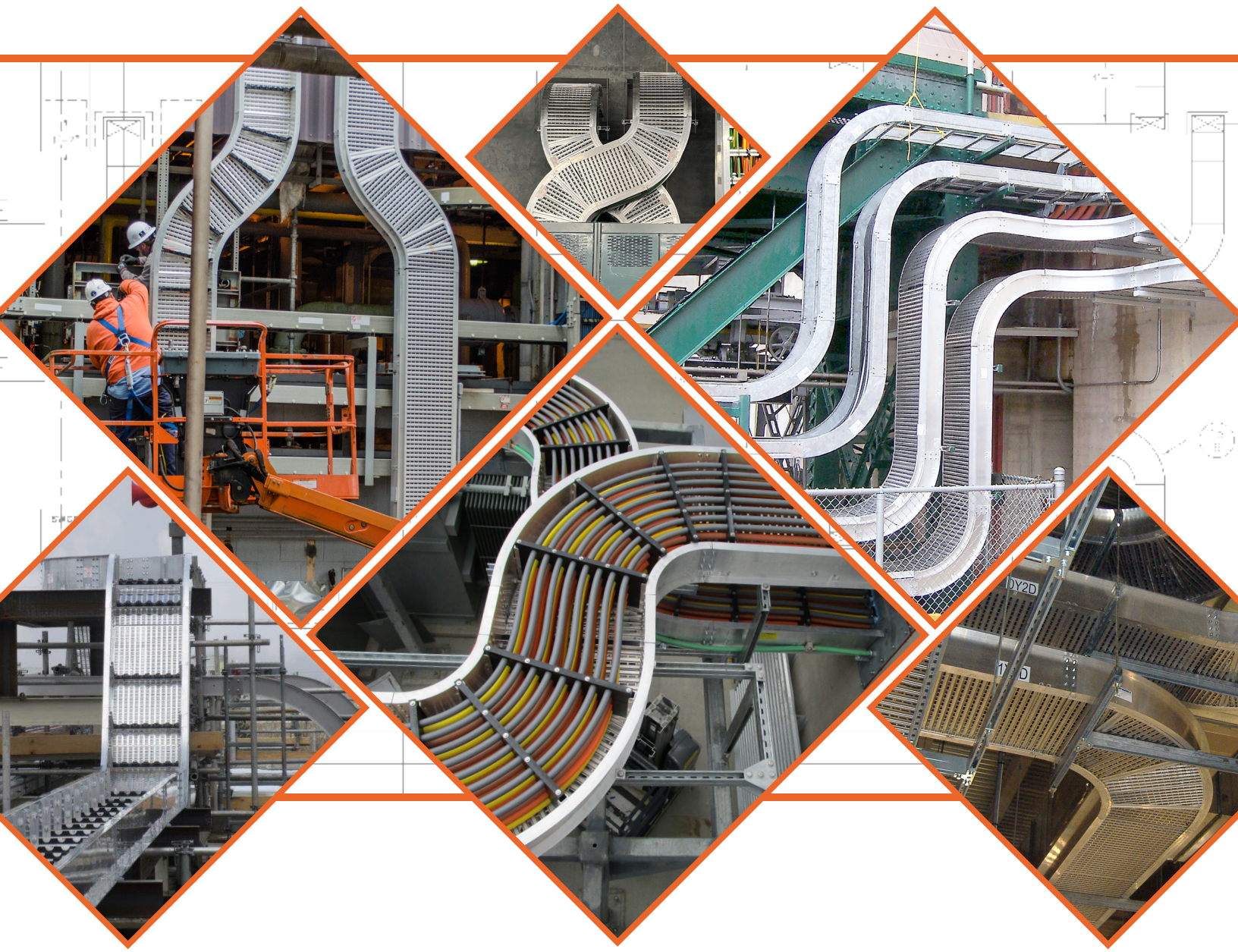
mphusky™
CABLE BUS



CABLE BUS BROCHURE

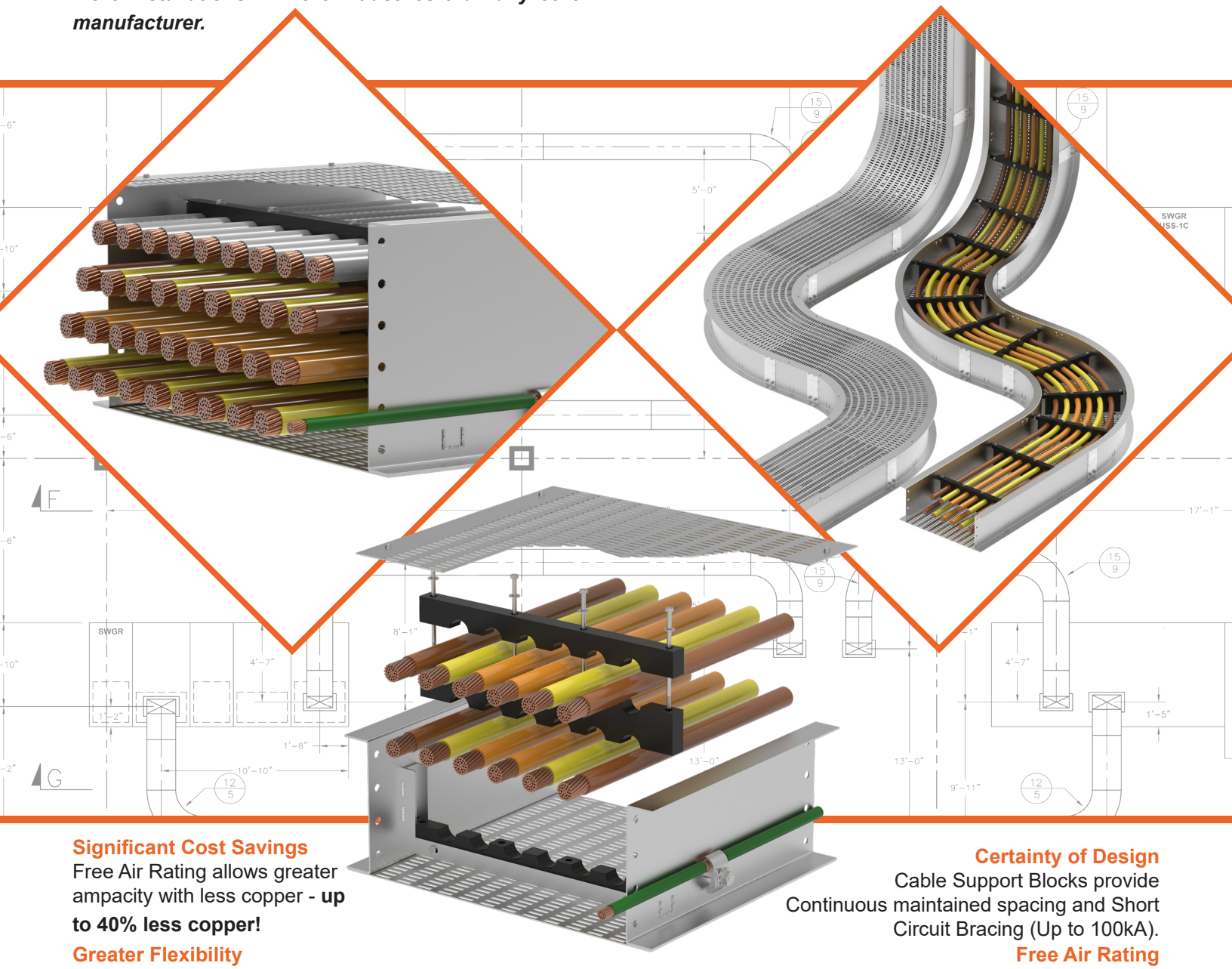
Decade after Decade

Engineered to Outperform

Field proven for over 60 years *in the most extreme environments: Corrosive, Heavy Salt, Chemical, Cold (N. Canada), Hot (Saudi Arabia) and tropical locations.*

Most Reliable
MP Husky Cable Bus utilizes continuous runs of power cable (no faulty splices) between terminations
More installations in more industries than any other manufacturer.

Lowest Installation Cost with parallel conductors for entire run. Our system does not interleave or Transpose cables in the bus housing, this means it cost less to install.



Significant Cost Savings
Free Air Rating allows greater ampacity with less copper - **up to 40% less copper!**

Greater Flexibility
No Delays. Easily adjusted in the field for changes and unforeseen obstacles.

Polymer Cable Support Blocks will not decay, rot or lose integrity for 50+ years.

Certainty of Design
Cable Support Blocks provide Continuous maintained spacing and Short Circuit Bracing (Up to 100kA).

Free Air Rating
Ventilated top and bottom covers provide superior protection and ventilation.

CSA Certified
CSA/ANSI C22.2 No. 273:19 (Cable Bus)

Most Reliable Lowest Cost Most Flexible Maintenance-Free

mphusky™ cable bus

For over 60 years, MP Husky Cable Bus Systems have been engineered and manufactured for superior reliability. We utilize less conductive material to provide significant cost savings versus non-segregated phase bus, conduit, and wire with other electrical feeders. We design our systems to adjust to changes in the field so that your installation minimizes delays and that you can utilize the smallest footprint. With MP Husky Cable Bus you get unparalleled reliability, cost savings and flexibility. See for yourself!

Introduction

Cable Bus is an electrical busway that consists of an assembly of fully insulated conductors mounted in a ventilated metal housing, utilizing cable support blocks to maintain cable phasing, spacing and short circuit protection. The welded aluminum alloy enclosure is provided in custom lengths, with each piece sized to fit the specific installation. The system includes all necessary equipment connections, flanges, cable, wall entrance seals, fire stops, elbows, offsets, terminal lugs, termination kits, and assembly hardware. A complete set of match-marked layout drawings show the location of each section and accessories, for a simple and fast installation.

Superior Reliability

60 years of engineering, design and manufacturing of Cable Bus systems with installations in nearly every environment, MP Husky Cable Bus is proven and tested to be the most reliable system on the market.

Five key features contributing to superior reliability:

1. High quality cables are continuous from termination to termination, eliminating faulty splices.
2. MP Husky Cable Bus utilizes factory insulated conductors that are designed and manufactured to withstand the harshest outdoor environments. Since our system design is not affected by moisture and is ventilated for indoor and outdoor applications, it does not require heater strips, filter breathers, and thermostats that competitive technologies require, leaving less parts to fail.
3. Each system's phasing arrangement is verified by computer generated inductive reactance calculations to ensure optimal load balance.
4. The system's short circuit capacity is tested to over 100,000 RMS sym. amps. Engineered polymer support blocks provide maximum performance and will not decay, rot or lose structural integrity from exposure to weather, unlike wood or fiberglass.
5. Top and bottom covers are ventilated for optimum cooling of conductors to achieve a free air rating. Actual Heat Rise Tests prove system design.

Lowest Cost

In most electrical applications over 1,000 amps, Cable Bus costs significantly less than non-segregated bus duct cable in tray or conduit and wire systems. As ampacity and/or the cost of copper increases the cost savings of Cable Bus over other systems is even greater.

Since Cable Bus is continuous there are no power losses from intermediate splices or connections. Cable Bus has a lower impedance and lower voltage drop because its conductors are properly phased, spaced and secured in a pre-engineered system. This reduces operating cost by providing long term energy savings. The use of parallel conductors, combined with our free air rating, allows you to operate fully and efficiently with less conductor than would be called for with other types of systems.

Unmatched Flexibility

MP Husky Cable Bus is easily adjusted to accommodate misplaced equipment and unforeseen obstacles during construction, with little or no delay in the project. Where as rigid non-segregated phase bus duct must be exact to make equipment terminations, MP Husky provides additional cable and Cable Bus housing to accommodate changes that often occur in the field. If the placement of equipment requires a different bus length, supplemental Cable Bus sections can be quickly adjusted in the field to

Features & Benefits:

Reliable

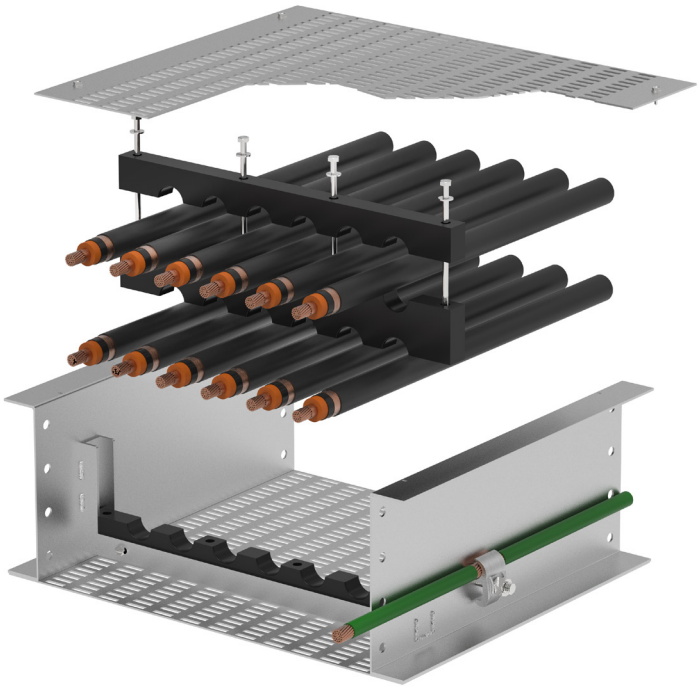
- Our system utilizes continuous runs of power cable (no faulty splices) from termination to termination.
- MP Husky utilizes high quality, factory tested cables.
- Polymer cable support blocks will not decay, rot or lose structural integrity for 50+ years.

Lowest Cost

- Free Air Rating allows greater ampacity with less conductors, achieving significant cost savings.
- Substantial savings on materials and installation costs compared to other systems.
- In addition to utilizing the least amount of space reduced fittings provide easier, more cost effective and precise connections.

Flexible & Adaptable

- Unlike non-segregated bus duct, MP Husky Cable Bus systems are easily adjusted in the field to accommodate misplaced equipment that often occurs during construction.
- Easily routed around unforeseen field obstructions (i.e. piping, structural steel, equipment, etc.)
- Our extensive custom fabrication capabilities ensure that we can manufacture a system to meet all your difficult coordination challenges.



Free Air Rating for Conductors

- Up to 40% less conductors are needed to carry fully rated current.
- Minimum temperature rise due to ventilated enclosure and maintained cable spacing by custom support blocks.
- Maximum ampacity in accordance with ICEA listings for 90 degree celsius rated conductors.

Indoor or Outdoor Applications

- Utilized for indoor or outdoor applications.
- No special finishes are required with housing utilizing non-corrosive marine grade aluminum.
- Excellent protection against adverse environments including Paper Mills, Fossils, Chemical Plants, Cold, Hot and Tropical locations.
- Suitable for food processing and Data Centers as well.

Testing and Certification

- Certified to CSA/ANSI 22.2 #273:19 (Cablebus).
- UL Classified as an equipment ground.
- Heat Rise Tests on widest range of system ratings.
- Short Circuit Test up to 120kA RMS Symmetrical.
- Heat Rise Test verifying MP Husky Cable Bus in trench applications.
- Load Tests confirm structural capability of housing, including up to 20’ spans.

Match-Marked Layout Drawings

- Cable Bus system layout drawings are shipped complete with match-marked numbers that correspond to each Cable Bus section.
- Product labels utilize large items numbers to facilitate quick product location and installation.

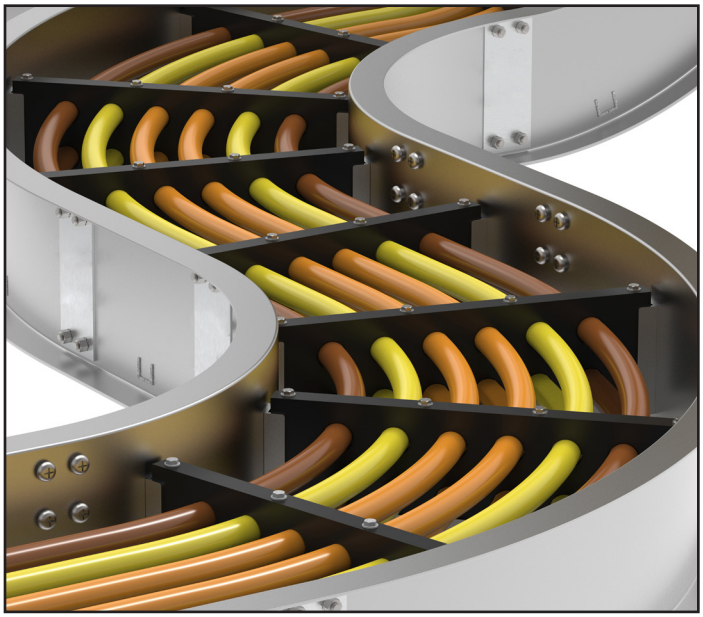
Features & Benefits:

Labor Savings
- Cables run in parallel throughout entire bus housing.
- Our system does not interleave or transpose cables in the bus housing.
- Lightweight, ventilated enclosure that two people can easily lift up to 24' sections into position.
- No heavy equipment required.

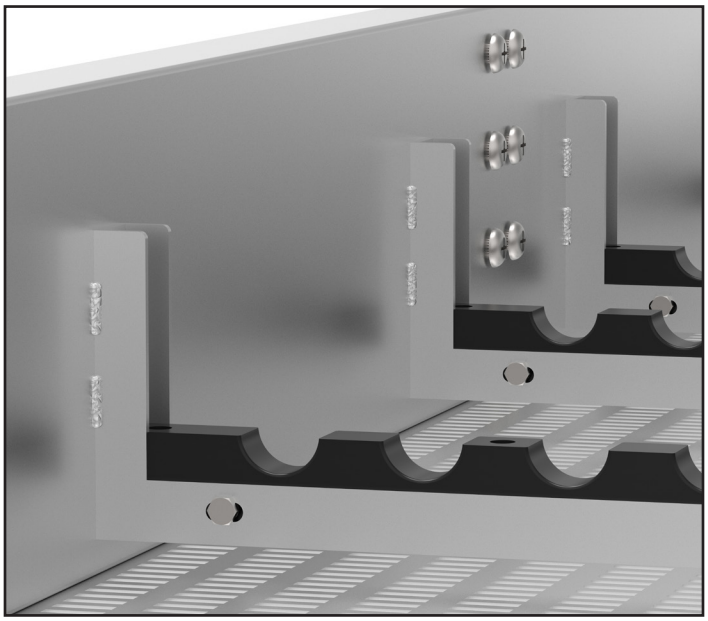
Safe
- MP Husky Cable Bus is an all welded rigid construction.
- Contractors are free of shock hazards - no exposed buselements, only insulated conductors used.
- Ventilated design prevents entry of foreign objects.
- Support block design assures proper cable support and complete restraint during short circuit conditions.

Less Support Material
- Design criteria accomplishes high load carrying ability on long spans with minimal support material
- Flush bottom design allows for use of standard support-material.

Complete System
- MP Husky Cable Bus systems are complete with all necessary fittings for direction and elevation changes.
- Termination boxes, equipment flanges, firestops, and wall seals.
- Lugs and termination kits for all systems.



Vertical Bracing System
- Stainless Steel bolts not required during installation.
- Makes vertical and horizontal cable pulls easier, thus reducing labor Costs.



Factory Fabricated - All Welded
- Bottom cable support block is factory pre-installed in Cable Bus Housing.
- Entire system is factory fabricated to fit the specific requirements of each individual project.
- All welded constructed for maximum strength.

Engineering Services
- Experienced and knowledgeable engineering group that can handle difficult coordination challenges.
- Engineering support during design of project and construction. MP Husky also offers engineering support and services during installation and start-up.

Proper Phase Balance
- MP Husky utilizes an Inductive Reactance Program to achieve the proper cable spacing and phasing arrangement that ensures low impedance and low voltage drop.
- Balanced load carrying of conductors prevents over heating of cables.
- Cable support blocks provide continuous maintained spacing.

Technical Information:

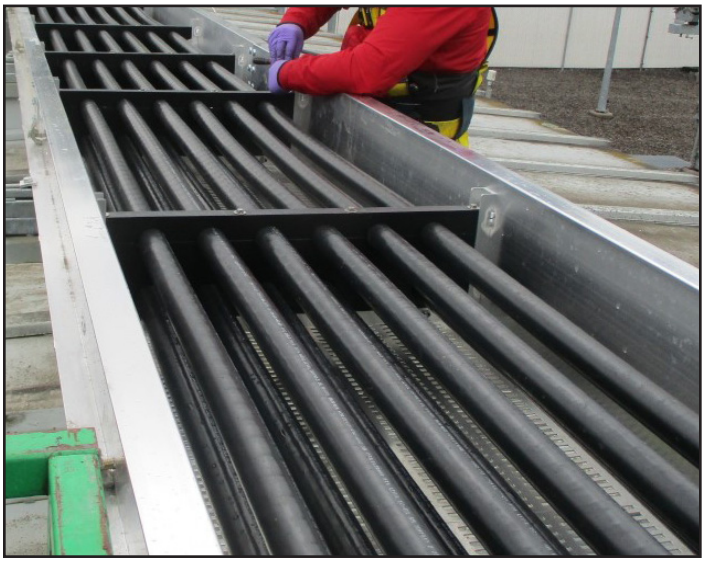
Selection of the proper Cable Bus system must be taken with care to assure that it compliments the design of the overall electrical power system.

Electrical Design

To ensure an efficient, dependable, high quality installation, MP Husky Cable Bus System can be fully engineered with particular emphasis placed on cables, system balance, short circuit capability, and ground requirements. Each one of these key design considerations must be analyzed separately to determine how they affect the overall system design.

Parallel Conductors

Parallel conductors (more than one per phase) can be used to an advantage in Cable Bus where large conductor sizes are encountered. The ampacity per circular mil of conductor decreases as the circular mil or conductor increases. Smaller conductors running parallel are more flexible during installation and have greater current carrying capability than fewer, larger conductors.



Voltage Drop

Proper system design dictates that voltage drop be considered for both the power feeders separately as well as the entire power system. A voltage drop of 3-4% for power feeders and an overall of 5% or less for the entire system are considered to be within acceptable limits. Cable Bus is designed for low-voltage drop. System specifit voltage drop data is available upon request.

Shielding

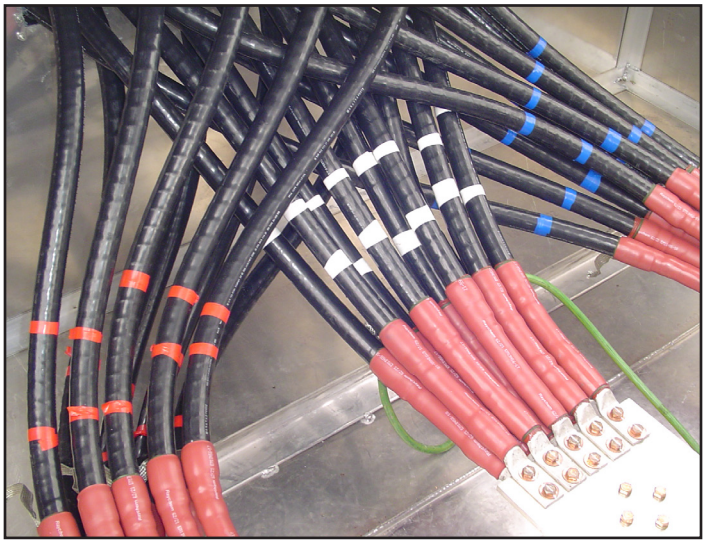
Shielding is used on power cables to confine the dielectric field of the conductor to the cable insulation. Shielded Power Cables are used in Cable Bus for applications above 2400 volts and when any of the following conditions exist:

1. Where cables are subject to soot or other heavy deposits that may form paths to ground.
2. Where electrostatic discharge can effect nearby computerized control cables or other low level signals.
3. Concern for personnel safety.

When installing shielded cable the metallic shielding must be solidly grounded and the installation must be studied to determine the best grounding method. This is necessary as voltage is induced in the shield of a single conductor cable carrying alternating current due to mutual inductance between its shield and any other conductor in its vicinity. This induced voltage can result in two conditions:

1. Metal shield bonded or grounded at multiple points creates shield to ground circulating currents. The magnitude of the circulating currents depends on the mutual inductance to the other cables, the current in these conductors, and the resistance of the shield.
2. Shields bonded or grounded at only one point will have a voltage build up in the sheath but will eliminate circulating currents.

The length of the circuit and the load conditions will indicate which of the above shielding methods is required for any particular reason. MP Husky's engineers can aide the client in choosing the best grounding method.



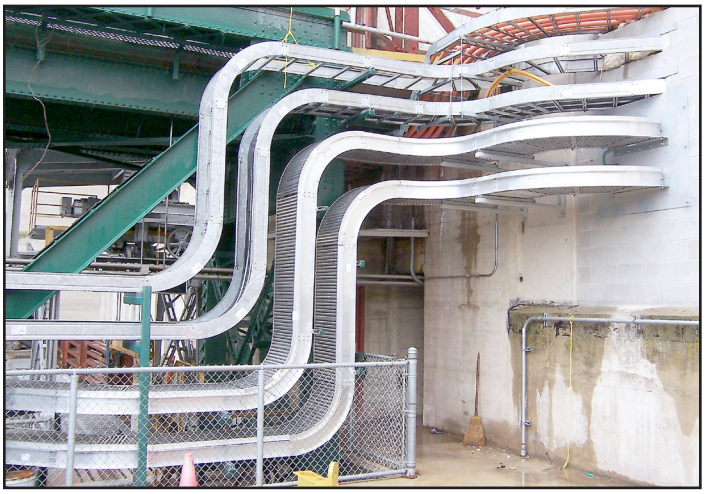
Technical Information:

System Balance

Cable Bus is a power distribution system using insulated using conductor power cables with support blocks that maintain cable spacing. Each phase consists of one or more cables connected in parallel. The complete assembly is enclosed in a ventilated aluminum enclosure for support and protection.

Parallel conductor transmission lines, using widely spaced conductors have been in use for many years. The electrical coupling between the conductors of a parallel conductor system, which is a function of the geometry of the location of the conductors, can cause an imbalance in the conductor currents. In a widely spaced overhead transmission line transposition of conductors can economically be used to balance the conductor currents.

The spacing of the conductors in Cable Bus is one cable diameter, (i.e. one to three inches), as compared to the typical value of thirty feet used in overhead lines. This close spacing and the relatively short lengths, as compared to hundreds of miles for overhead lines, make the transposition of conductors within the bus housing a difficult challenge and sometimes practically impossible.



The objective of the Cable Bus design is to obtain the optimum balance for an electrical circuit using parallel conductors (no transposition) with close spacing. MP Husky has developed an Inductive Reactance Program which solves for the line and phase currents of a parallel conductor system using a mathematical model of the transmission line parameters. MP Husky has designed Cable Bus systems with minimal imbalance through the use of computer programs and verification by laboratory and field testing.

MP Husky Cable Bus is designed for balance of conductors within a phase (intra-phase) and balance between the phases (inter-phase). Many phasing arrangements will provide inter-phase balance of currents due to the load impedance, but the majority of these phasing arrangements provide intra-phase current imbalance.

MP Husky's Cable Bus design provides a phasing arrangement that achieves inter-phase current balance, as well as intra-phase current balance, therefore reducing the amount of parallel conductor imbalance to a minimum.

Short Circuit Capacity

A Cable Bus system must be able to withstand the dangerous mechanical forces created by short circuit currents. These forces are transmitted from the conductors to the cable supports. In the case of Cable Bus, the support elements include the support blocks and enclosure.

Short circuit currents are made up of two parts; a symmetrical AC component and a rapidly decreasing DC component, (Fig. 5 on next page). Cable Bus systems must be selected so that its mechanical strength will withstand the maximum instantaneous current and to a lesser degree the 5-8 cycle resultant symmetrical current. The symmetrical current is the actual value that a high voltage breaker will interrupt.

Technical Information:

Since Cable Bus is often used for main feeder connections, (e.g. substation, generator or transformer to switchgear, load centers and high voltage machines), the available short circuit current will be that of the utility or generator supply through the transformers. In some cases, the Cable Bus feeds large motors and the motor contribution to short circuit must also be considered. Numerous tables are available listing motor contributions for various operating conditions.

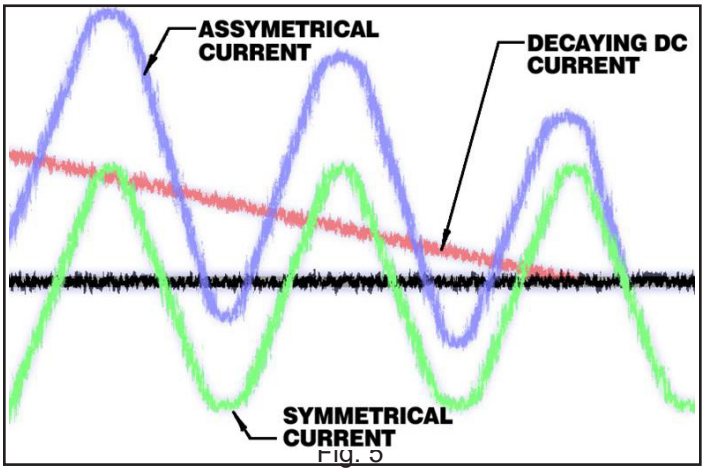


Fig. 5

Available fault currents can be limited to some extent by conductor impedance. The impedance can be in the form of either conductor length, size or a combination of both.

The MP Husky Cable Bus design ignores these added conductor impedance; instead the worst fault conditions are always assumed. For design consideration a three phase short circuit current will result in the maximum mechanical forces for design considerations.

If Cable Bus is fed directly from the utility company service then short circuit current data will be available from the utility.

Where motor contributions are considered, the fault current due to the motor feedback will be a function of the voltage and is usually expressed as multiples of the motor full load current. NEMA standards are available which list these factors. Certified tests have been conducted to determine the short circuit performance of Cable Bus using various supporting arrangements.

Short Circuit Testing

The Cable Bus systems were tested on a 600 volt, 3 phase, 60Hz circuit having a power factor of less than 0.20. One end of the Cable Bus was connected to the source terminals and the other was short circuited to create a three phase bolted fault.

Each test was conducted for a minimum of six cycles. Oscillograms recorded the phase currents during the test. Still photographs and high speed color motion pictures were taken relevant to the test.

MP Husky Cable bus has been subjected to currents of 39,000, 67,500, 85,000, 100,000, 120,000, 125,000, 150,000, 175,000, and 200,000 RMS symmetrical amperes with asymmetrical currents greater than 200,000 amperes. Cable Bus withstood the mechanical forces of the test without any damage to the cables, support blocks or enclosure.


MP Husky 4000Amp, 5kV Cable Bus System with open air termination to GSU transformer.

Technical Information:

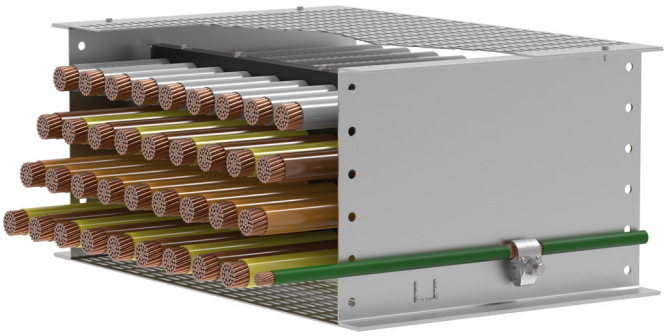
Grounding

A Cable Bus system must afford protection to life and property against faults caused by electrical disturbances. Lightning, electrical system failures, as well as failures in the system connected equipment, all constitute possible fault hazard locations.

For this reason, all metal enclosures of the system, as well as non-current carrying or neutral conductors should be tied together and reduced to a common potential. This includes the structural steal of the building, water, steam and gas piping.

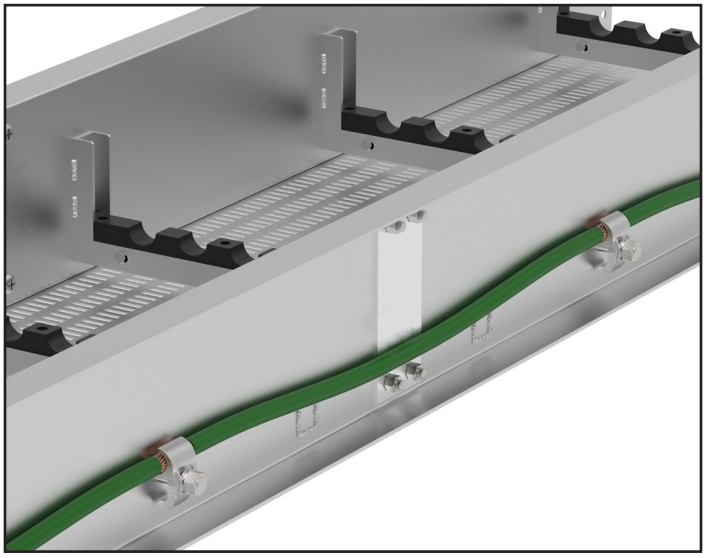
There are two distinct divisions to the system and equipment grounding problem. The system ground is the connection of the distribution system to earth by means of a neutral or grounded conductor and system grounding serves to limit the voltage, which might appear on the circuit due to lightning or accidental contact.

Cable Bus systems should be grounded to the substation structure and thus to the substation ground grid and to the building steel by means of the Cable Bus support materials. Cable Bus should also be grounded to the equipment or switchgear enclosure.



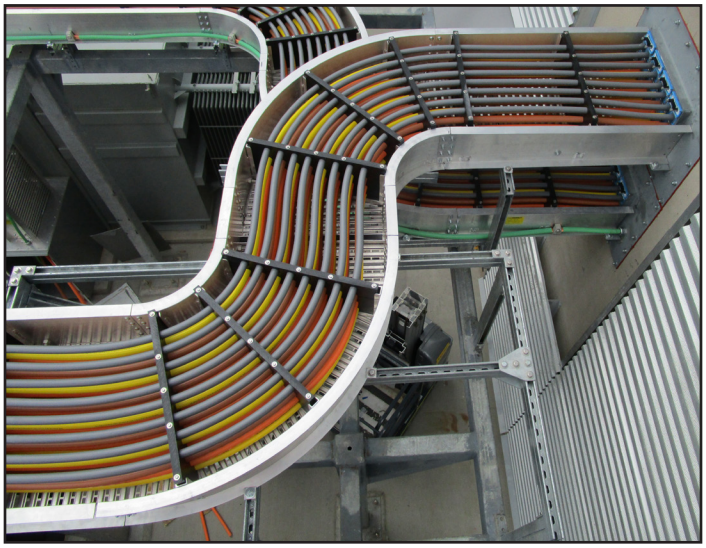
It is an accepted fact that ground currents tend to concentrate near power conductors and that cable enclosures take a large portion of the ground currents; therefore, it is important to consider Cable Bus as a major carrier of ground currents.

MP Husky's Cable Bus enclosure is rated up to 2000A ground current. Extra ground current capacity can be provided by the application of external ground conductors bonded to each section of Cable Bus housing.



Flexibility

MP Husky Cable Bus systems are flexible and adaptable to the many unexpected circumstances that occur during construction. Every size and rating of Cable Bus provided is supplied with up to 5% extra cable as well as one spare length of housing including cover, cable support blocks and hardware. This enables the installer to adjust our system in the field to unexpected changes or field obstructions with little or no delay of the project. The compact design and radius bends allow our system to maneuver around and fit in tight clearance applications.



Quality Assurance:

Our Quality Policy

At MP Husky we are committed to producing only the highest quality products that need or exceed our customers expectations and requirements. Our goal is to achieve 100% customer satisfaction by delivering the best products and services on time and defect free. We will achieve this individually and corporately through tested and proven processes and controls, in our Quality System, and with a constant focus and effort on continuous improvement.

MP Husky's Cable Bus System are certiied to CSA/ANSI C22.2 #273:19 (Cablebus) and UL Classified as an Equipment Ground.

Item	Standards
MP Husky Quality Program	• ANSI/ASQC Q9001-2000 (ISO 9001 Compliant) • ASME NQA-A-2008/2009A • ANSI N45.2
Cable Manufacturers: Prysmian/General Cable, Okonite, Encore & others • Quality Assurance • Manufacturing Standards	ISO 9001 Includes ICEA, CSA, ANSI, IEEE
Certification	• CSA/ANSI C22.2 No. 273:19 (Cablebus) • CSA Certified to C22.2 No. 126.1-02 For Enclosed Grounding • UL Classified for Grounding
Load Test Standards	NEMA VE-1/CSA Tray Standards
Cable Bus Support Standard	NEMA VE-2, NEMA CB 15001
Heat Rise Standards	CSA/ANSI C22.2 No. 273:19 (Cable Bus) & IEEE C37.23
Cable Ampacity Standards	• IPCEA P-46-426; ICEA S-66-524; IEEE S-135 • CSA CEC Part 1 & C22.2 • NEC
Fault Bracing Standards	CSA/ANSI C22.2 No. 273:19 (Cable Bus) & IEEE C37.23
Short Circuit Certification	Eaton High Power Test Labs
Grounding	UL, CSA, NEC
Welding	• Welders qualified per ASME Section IX • Welding Procedure Specifications (WPS) Aluminum, steel, PG and SS • Procedure Qualification Records (PQR) Aluminum, steel, PG and SS • Certified Welding Inspection available

National Electrical Manufacturers Association

Industry: Data Center
Project Type: Power Distribution
Location: United States
Project Value: 15,000,000

Scope: Low voltage pow er distribution from transformers to switchgears and generators to switchgear. 600V 4000A Cable Bus Systems were supplied. To meet customers delivery schedule, the Cable Bus was expedited and released by building to accommodate the customers installation needs. The work done on this project serves as the model on the second and third phase of the project.

Industry: Petrochemical
Project Type: Main Power Distribution
Location: Canada
Project Value: $4,000,000

Scope: Desing of three 15kV Cable Bus runs, two bus runs at 3000A and one bus run at 4000A. The bus runs tie the main transformers to three different switchgear houses located at various points in the plant. Cable Bus lengths were over 1,000 ft. each.

Industry: Utility
Project Type: New Power Generation
Location: United States
Project Value: $3,000,000

Scope: Power Distribution for Flue Gas Desulphurization project using over 25 Cable Bus runs. The main transformers had double winding rated at 7kV & 15kV. MP Husky supplied two 3000A Cable Bus runs from each transformer to the main switchgear house. From there, we supplied 2000A and 1200A Cable Bus runs out to fixe unit switchgear houses. These Cable Bus runs parallel each other along a pipe bridge and then drop off to each of the unit switchgear houses. Some of these runs exceed 1,00 feet in length.

Industry: Sports Arena
Project Type: Power Distribution
Location: United States
Project Value: $250,000

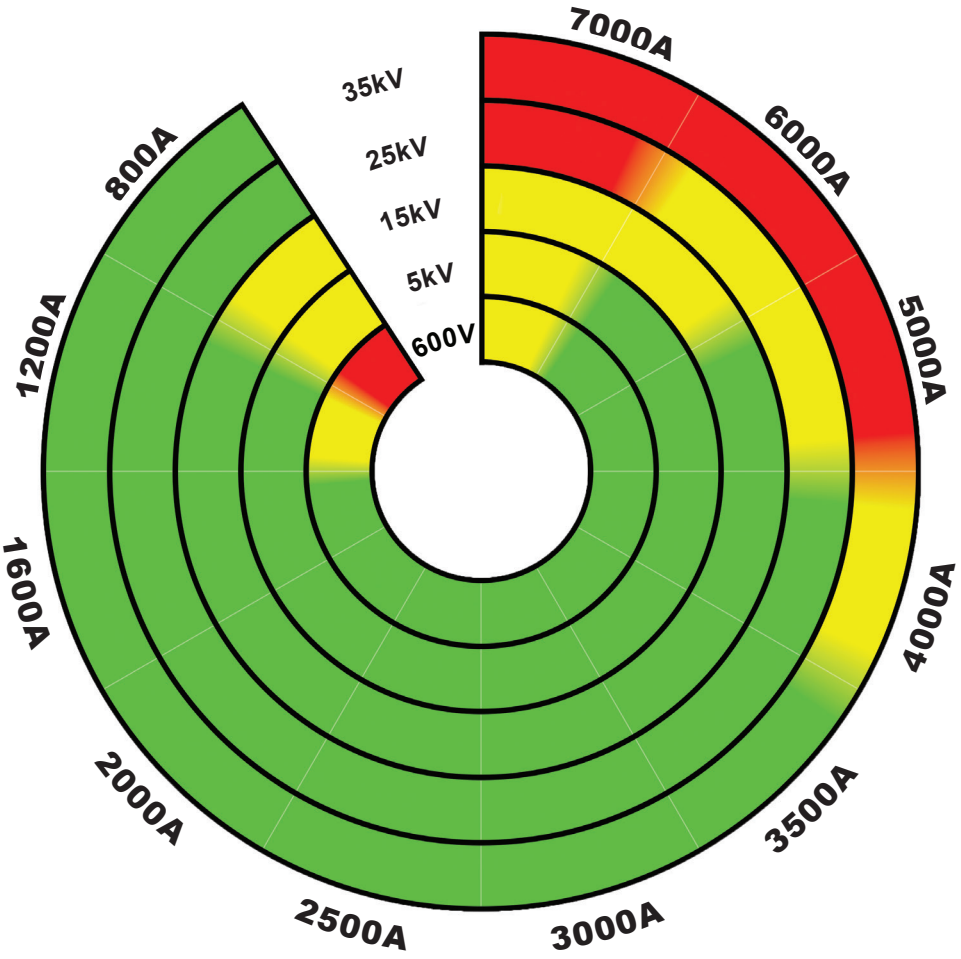
Scope: Scope: Four 600V bus runs designed to feed specialize equipment within the arena. This design included special cabling arrangements with the systems. The bus housing was also painted to match the architectural scheme and blend in with the surrounding materials.

Industry: Manufacturing
Project Type: Power Distribution
Location: Asia
Project Value: $1,500,000

Scope: Provided a wide range of system designs throughout the facility for main feeds, distribution, and maintenance purposes. These runs included 600V, 5kV and 15kV bus systems from XFMR's to SWGR & MCC's.

Voltage Ratings:

	Definite Cost Savings on these available Ratings
	Possibly Available or Economical, Consult Factory
	Typically Outside Practical or Economical Range



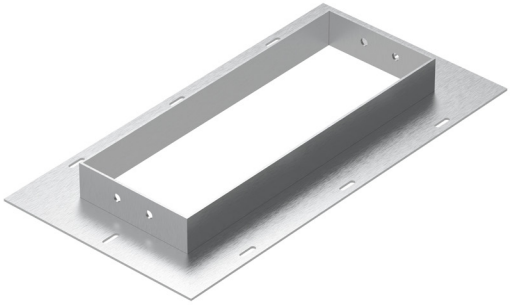
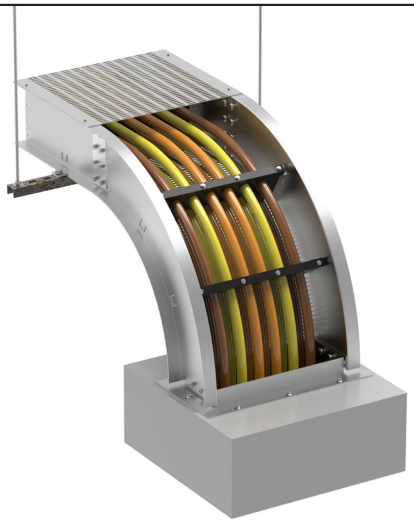
MP Husky Cable Bus Features:

- Engineered System with Inductive Reactance Program; results for average phase impedance available upon request for the design engineer.
- High fault capacity. Cable Bus is tested up to 200kA RMS Symmetrical.
- Low installation cost with runs. No cable transpositions within the housing, regardless of run length. Installation savings of 10% to 25%, depending on run length and cable size.
- Widest available range of Voltage Class and Ampere Ratings in the industry.
- CSA/ANSI C22.2 No. 273:19.
- UL Classified as an equipment ground.

System Components:

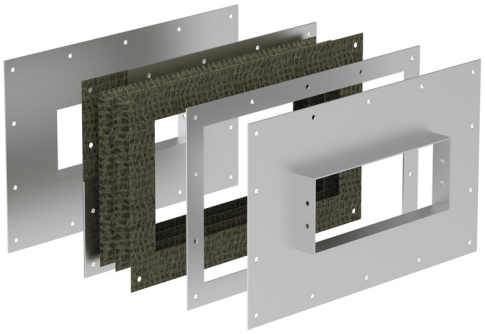
Indoor Connection Flanges:

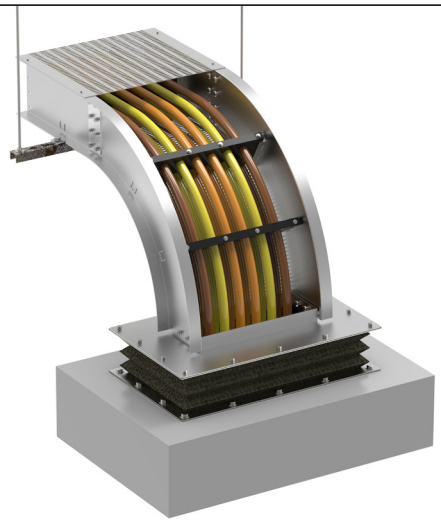
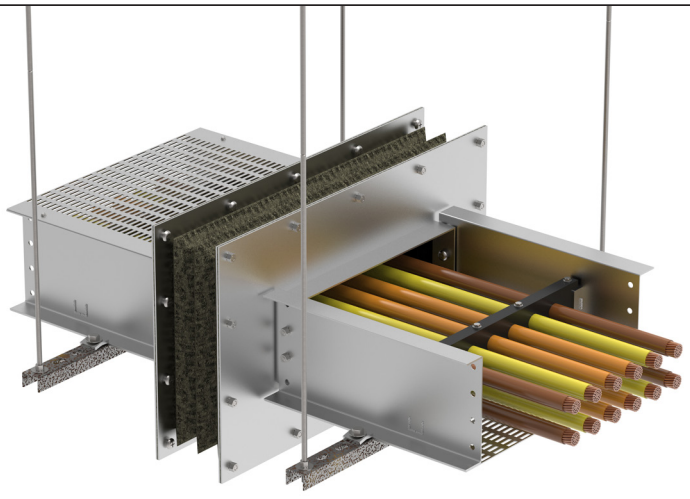
Indoor connection flanges are used when no environmental protection is required.

INDOOR CONNECTION FLANGE PART VIEW	INDOOR CONNECTION FLANGE APPLICATION VIEW
	

Flexible Boots:

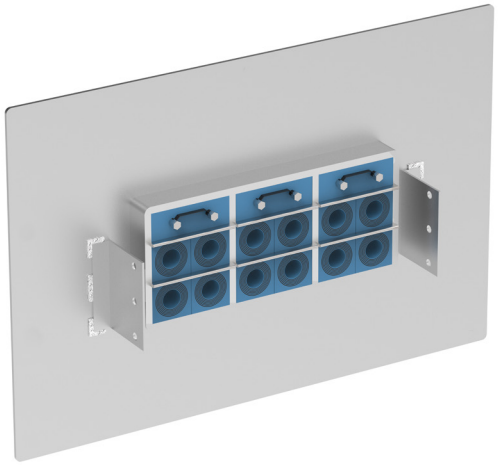
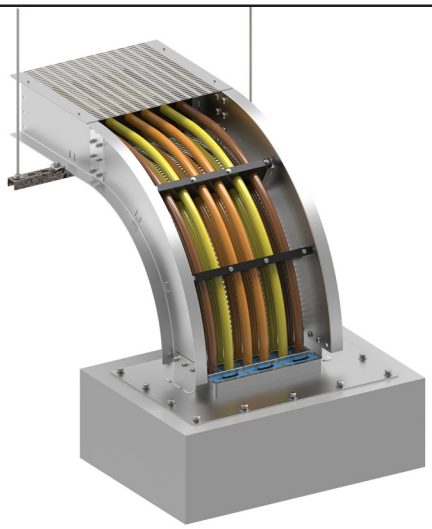
Flexible boots are designed to allow for equipment vibrations, expansion needs, and/or settlement concerns. These items are engineered with our flanges and seals to meet the required environmental conditions.

FLEXIBLE BOOT PART VIEW


FLEXIBLE BOOT APPLICATION VIEW	
	

Compression Seal Flanges:

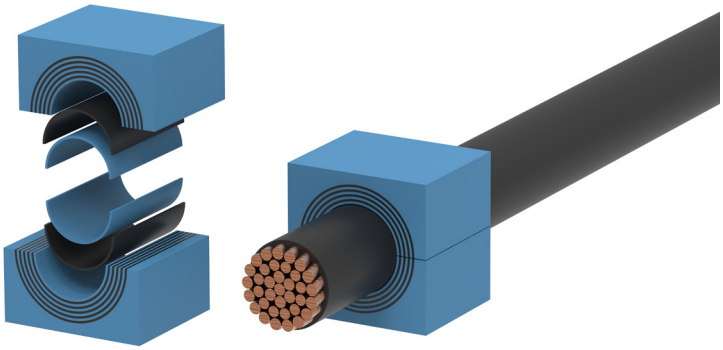
Compression seals (Aluminum) are used when a watertight/vaporproof seal is required, but no fire rating is needed. Neoprene modules are inserted after the cables are installed for a watertight seal and ease of pulling.

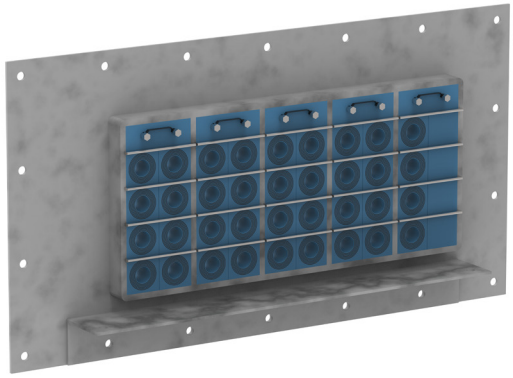
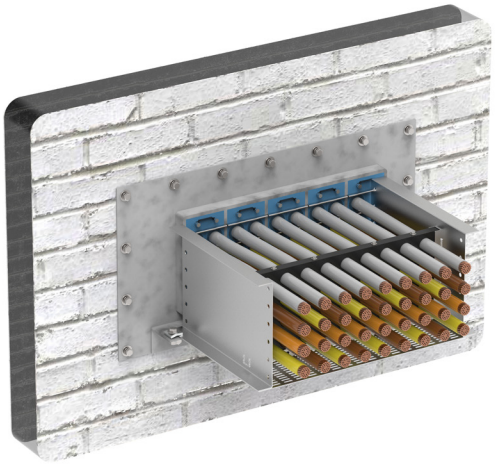
COMPRESSION SEAL FLANGES PART VIEW	COMPRESSION SEAL FLANGES APPLICATION VIEW
	

Firestops:

Steel Fire Rated MCT seals are used when a fire rated and watertight seal is required. Neoprene modules are inserted after the cables are installed for ease of pulling. They carry a 2 hour fire rating and come with all necessary hardware.

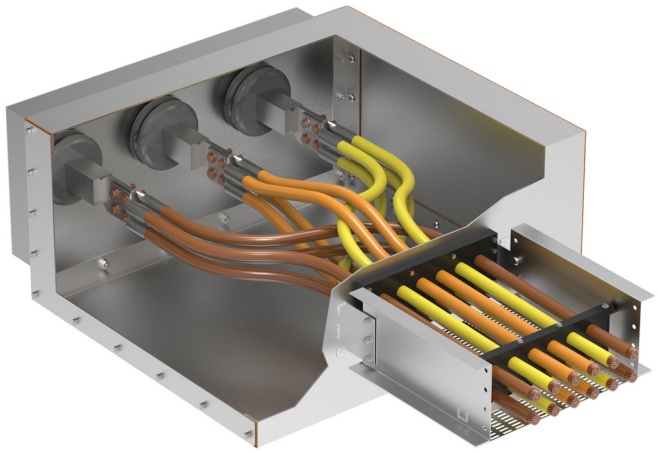
Neoprene modules are used with Roxtec frames. They Provide Multidiameter™ Roxtec technology based on removable layers for perfect adaptation to a cable.



FIRESTOP PART VIEW	FIRESTOP APPLICATION VIEW
	

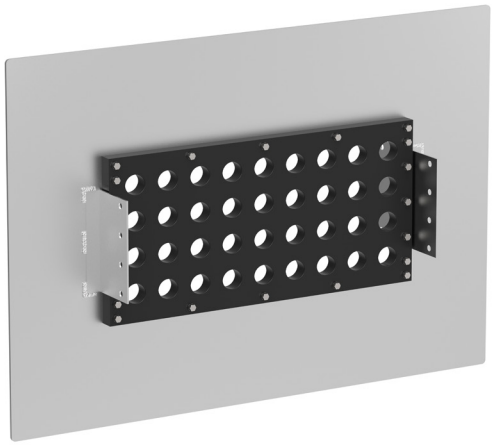
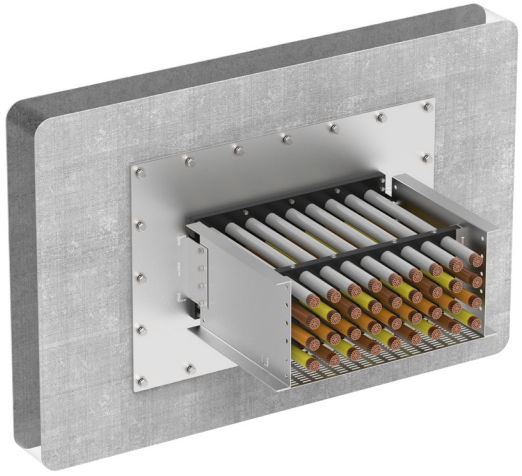
Termination Boxes:

Termination Boxes, SWGR/MCC Top Hats, and other Junction Boxes are designed and supplied by MP Husky to guarantee the needed space to properly transpose the phases and terminate the conductors to the electrical equipment. Boxes are designed and manufactured to NEMA standards with aluminum welded frame construction with bolted removable panels, and welded fixed covers as needed. These boxes are engineered with our flanges and seals to meet the required environmental conditions.

TERMINATION BOX PART VIEW	TERMINATION BOX APPLICATION VIEW
	

Weatherproof Seal Flanges:

These fittings form a weatherproof seal with equipment/walls and can also be used for floor penetrations. Conductors are sealed with RTV silicone sealant. Entrance fittings are furnished with all necessary hardware.

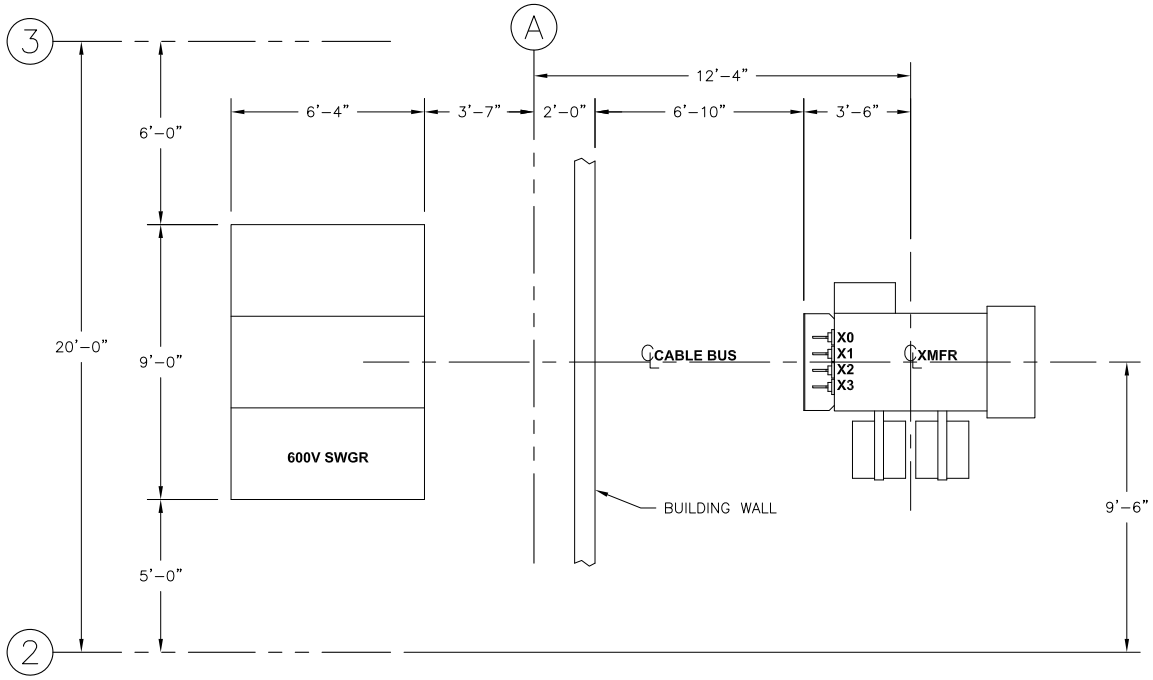
WEATHERPROOF SEAL FLANGE PART VIEW	WEATHERPROOF SEAL FLANGE APPLICATION VIEW
	

Design Requirements:

Once a job has been awarded, the following design requirements will need to be submitted.

1. Drawings & submissions, special requirements - engineer will provide any special client title block data electronically to MP Husky and MP Husky will add to the drawings.
2. Equipment layouts, plan and elevation, tied to coordinate points, column lines, or site survey lines.
3. Certified equipment drawings, showing location of termination points and available termination space.
4. MP Husky will accept 3D model files that includes wall/floor locations, any associated equipment interfacing with cable bus, and the routing of the cable bus. (MP Husky prefers this to be sent in a .DWG file format)

Transformers	• Plan and elevation DWGs with centerlines • Location of the bushing and throat flange relative to the XMFR base and centerlines. • Transformer height from the base to top of cover mounted bushing. • Horizontal distance from XMFR centerline to bushing centerline of cover mounted bushing. • XMFR height from base to horizontal centerline of sidewall mounted bushing. • Horizontal distance from XMFR centerline to bushing extension of sidewall mounted bushing. • Bushing drilling pattern and hole spacing.
Switchgears	• Plan and elevation outline DWGs with centerlines. • Side section DWGs showing cable termination space. • Location of the bus bars relative to the switchgear base and centerlines. • Bus bar drilling pattern and hole spacing. • Location (e.g. bottom, top, or side) and size of the entry into the switchgear.
Buildings	• Plan and elevation outline DWGs with centerlines. • Outer wall location, construction details, entry locations, and fire ratings. • Dimensioned plan, elevation, and section views showing bus entry locations. • Room elevation above grade. • Equipment layouts referenced against coordinate points, column lines, or site survey grid. • If cable bus entry is below, through the building floor, the following issues may apply: » Time Rating of Fire Barriers. » Floor construction details » Method for fire barrier » Mounting directly to the underside of the floor or a throat to which a barrier can be attached.



Typical Specification:

1.0 General

1.1 A complete metal enclosed bus system shall be provided; including all necessary fittings, enclosure connectors, entrance fittings, insulated conductors, electrical connectors, terminating kits, and other accessories as required.

1.2 The bus system shall be suitable for indoor or outdoor use with conductor spacing and ventilation main tained throughout the system.

1.3 All elements of the bus enclosure shall be so designed as to eliminate any sharp edges or projections that may injure personal or conductor insulations.

1.4 The bus system shall be Cable Bus, as manufactured by MP Husky.

2.0 Construction

2.1 All load carrying members of the bus system shall be fabricated from extrusions of aluminum alloy 6063-T6. The maximum allowable stress used in designed shall be 10,000 PSI.

2.2 Bus enclosure fittings shall have a radiused construction as required to fit the bus routing and design. In no case, should the fitting radius exceed the minimum bending radius of the conductor.

2.3 The top and bottom enclosure sections shall be of flat design to provide mechanical strength and slotted for ventilation. The top cover shall be fastened to the enclosure with self tapping screws spaced approxi-ately 2 feet on centers and shall be removed for inspection. The bottom section shall be factory installed by welding.

2.4 Splice joints between sections of the bus enclosure shall be the high pressure splined bolted type of a design which avoids any structural weakness at the connection and does not exceed the electrical resistance specified under Section 3.4 of this specification.

2.5 Conductor support blocks shall be designed in segments to maintin the minimum of one conductor diam-eter in both the horizontal and vertical planes, as required for free air conductor rating. Horizontal runs will have blocks spaced every 36” and vertical runs every 18”. Conductor support blocks shall be made of industrial polymer.

3.0 Electrical

3.1 All current carrying conductors shall have insulation rated for 90°C operating temperature in accordance with ICEA publication #P-46-426 and interim STD #18#2 to ICEA publication #S-66-524 for the ampacity and voltage specified.

3.2 The conductors shall be phased and supported to maintain low impedance and assure the mechanical strength necessary to prevent cable movement or damage under short circuit currents up to 100,000 RMS symmetrical amps.
Conductors shall be of continuous length and be pulled in after the bus enclosure is in place.

3.3 Electrical connectors shall be used only at the termination of conductor runs. All electrical connectors shall be provided by MP Husky.

3.4 The bus enclosure shall have a continuous current rating of not less than 1,000 amperes (50°C Rise) and the resistance across the enclosure section splice shall not exceed 50 microhms.

3.5 The bus enclosure shall be grounded at sufficient intervals for the purpose of preventing a potential above ground on the bus enclosure in the event of a fault.

3.6 The conductors shall be arranged in a phasing pattern which exhibits minimal inter-phase and intra-phase imbalance.

3.7 Conductor temperature rise and current balance data can be provided in support of Section 3.6 of this specification.

3.8 All transposing of cables must occur at termination points. Transposing of cables will not be done in the bus housing.

NOTES:

NOTES:

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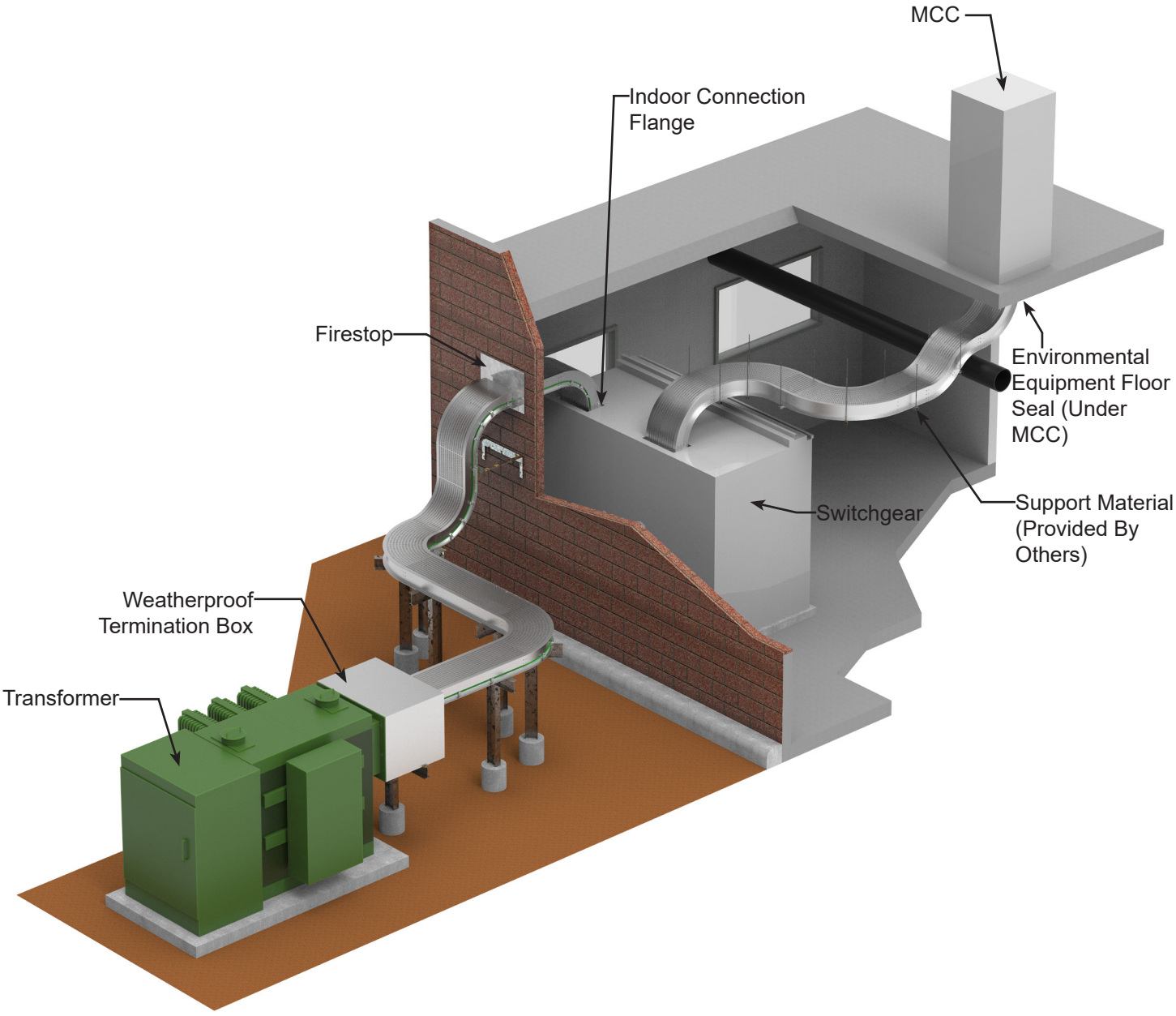
CABLE BUS



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CABLE BUS

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