

General Specification for a Low Power flexible Busbar Trunking System

**20A flexible Busbar Trunking System, with
factory fitted tap –off outlets at regular intervals**

Compliant with **Sprinkler test**

- For the distribution of lighting and the electric
power supply of loads of low power.

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1. General

The electrical power shall be distributed by a **flexible busbar trunking system** and its accessories with plug-in openings, **factory fitted at regular steps**.

All the components of the busbar trunking fittings shall be **IP55**, in any positions, in accordance with IEC 60529 and **sprinkler tested**, with **no need of additional accessories** in both cases.

All the components composing the busbar trunking system shall be **halogen free** and **silicon free**.

The busbar trunking shall be designed with **3** or **5** tin plated copper conductors, **including one separate protective conductor**.

2. Standards

All the stages of design, manufacturing and tests of the busbar trunking system and its accessories shall be in compliance with **all the requirements of IEC/EN 60 439-2 standard** and related certificates, **issued by a third party such as ASEFA shall be available**.

3. Design

3.1 Conductors

Conductors shall be made of **tin-plated copper on the whole length**, to ensure reliable and better contacts.

The insulation shall be double : each conductor shall be insulated and all conductors shall be protected by an insulating sheathing.

The busbar trunking system shall have the following characteristics:

Rated current at an ambient temperature of 35°C (Inc)	:	20A
Rated Insulation Voltage (Ui)	:	690 Volts
Rated Operating Voltage (Ue)	:	230...400 Volts
Impulse Withstand Voltage (Ump)	:	4 kV
Frequency (f)	:	50/60Hz

3.2. Short Circuit Capacity

Optimum installation performance shall be ensured by coordinating the protection circuit-breakers and the busbar trunking, with equipment from the same manufacturer. Selection guides defining the rating of the circuit breaker required to fully protect the busbar trunking shall be available to simplify the design of the installation.

3.3. Temperature Rise

The maximum hot-spot temperature rise at any point of the busbar enclosure at continuous rated load shall not exceed 55° C above the maximum ambient temperature of 35° C **in any position**.

3.4. Plug-in Openings

Plug-in openings shall be **factory fitted**, (at regular intervals of **1,2 m, 1,35 m, 1,5m, 2,4m, 2,7m or 3m**)

After the dismantling of a tap-off unit, the **IP55 shall be restored** by installing the blanking plate initially factory fitted.

3.5. Plug-in Connectors

The busbar bar trunking system shall derive the electrical power by means of a range of plug-in connectors, **compatible with all the ranges of busbar trunkings, from 20 to 40A, of the same manufacturer**, including plug-in connectors for the lighting control.

The plug-in connectors can be **connected and disconnected while energized and under live conditions**.

No live part can be accessed at any time, before, during and after the plugging.

For a better safety, during the connection of the plug-in connectors, the PE connection shall occur prior to the connection of the phases and the neutral.

Phase selection plug-in connectors shall be available, to balance 3-phase distribution systems; **the selection shall be visible** via a transparent window.

Among the range of plug-in connectors, 10A units, ensuring both the supply **and the control** of the lighting, with following options, shall be available :

- control by single-circuit switch
- control by double-circuit switch
- control by two-way switch
- control by impulse switch or timer

The quality of the live contacts between the busbar trunking and the plug-in connectors shall be ensured by means of a **spring clamp system**.

3.6. Fixing system

A support ensuring the mounting of both the busbar trunking and VDI cables, shall be available.