UL rating for ROLINX® Busbars

Product Information

ROLINX®
MADE FOR POWER

In the industry of laminated busbars, the UL-ratings for busbars are often limited to the UL-94 flammability rating classes. However, often the customers' end products require complying with the UL508C standard (Power Conversion Equipment). Since a busbar is not considered an end product but a component of a complete converter, it can not be directly listed to UL508C. When however, fulfilling the requirements in the UL746C test standard, it complies to specific requirements applicable for busbars used in Power Conversion Equipment.

Rogers, in close co-operation with UL, has been able to define a new and complete UL-file by creating a modular and intelligent busbar construction. This busbar construction has been tested against UL746C and enables Rogers to use the UL-marking for almost any busbar design -varying in thickness, conductor layers, insulations, etc.- in a faster and easier way to get your end product UL508C listed.

The Rogers engineering team can help design the right busbar construction that meets this new UL-rating. This allows you to get your busbar design UL-approved, reduce proper validation time and expenses and bring your end product faster to the market. With this new UL-listing Rogers can deliver most of the designed ROLINX® busbars with the UL-mark.

This new UL file for ROLINX busbars shows all required ratings for busbars according to UL746C.

It consists of:

// Flammability rating (UL94)
// Hot-Wire resistance to Ignition (HWI)
// High Current Arc resistance to Ignition (HAI)
// Comparative Tracking Index (CTI)
// Relative Thermal Index (RTI)

Advantages

A ROLINX busbar tested according to UL746C offers:

// Easy UL-approval due to a new UL-file and intelligent and modular busbar construction
// Reduction of the validation time and internal preparation cost for your complete 'end product'
// Shorter time-to-market for your product
// A guarantee for product quality
// Reduction of engineering time, including less prototype iterations: right the first time
// Avoidance of over-design

Upon customers' request, ROLINX busbars can be marked as a 'recognized component'. This marking is a UL-marking for components and is under strict supervision of UL.

(Note UL: The Component Recognition marking is found on a wide range of products, including some switches, power supplies, printed wiring boards, some industrial control equipment and thousands of other products.)

Finally, this marking will allow you to get your endproduct UL-listed faster (UL-marking =).

ROGERS CORPORATION

Definitions

// **UL508C: for Power Conversion Equipment**
These requirements cover devices rated 1500 Volt or less.

// **UL-94: The Standard for Flammability of Plastic Materials for Parts in Devices and Appliances**
UL-94 defines a test program conducted on plastic materials to measure flammability characteristics. It determines the material's tendency either to extinguish or to spread the flame once the specimen has been ignited.

// **HWI: Hot-Wire resistance to Ignition**
Hot-Wire Ignition performance is expressed as the mean number of seconds needed to either ignite standard specimens or to burn through the specimens without ignition. The specimens are wrapped with resistance wire that dissipates a specified level of electrical energy.

// **HAI: High Current Arc resistance to Ignition**
High-Current Arc Ignition Performance is expressed as the number of arc rupture exposures (standardized as to electrode type and shape and electric circuit) that are necessary to ignite a material when they are applied at a standard rate on the surface of the material.

// **CTI: Comparative Tracking Index**
Comparative Tracking Index is expressed as that voltage which causes tracking after 50 drops of 0.1 percent ammonium chloride solution have fallen on the material. The results of testing the nominal 3 mm thickness are considered representative of the material's performance in any thickness.

// **RTI: Relative Thermal Index**
Maximum service temperature for a material, where a class of critical property will not be unacceptably compromised through chemical thermal degradation, over the reasonable life of an electrical product, relative to a reference material having a confirmed, acceptable corresponding performance defined RTI.

Available ratings*

Mtl Dsg	Color	Min thk (mm)	Flame Class	HWI	HAI	RTI Elec	RTI Mech Str	CTI
YE-(a)-(b)	WT	1.0	V-0	0	0	105	105	-
		3.0	V-0	0	0	105	105	0
YEs-(a)-(b)	WT	1.0	V-0	0	1	105	105	-
		3.0	V-0	0	1	105	105	0
YEt-(a)-(b)	WT	3.0	V-0	0	1	105	105	0
WH-(a)-(b)	WT	1.0	V-1	0	3	105	105	-
		3.0	V-0	0	3	105	105	0
		9.0	V-0	0	2	105	105	-
CO-(a)-(b)	WT	1.0	V-1	0	3	105	105	-
		3.0	V-0	0	3	105	105	0
		9.0	V-0	0	2	105	105	-
YEs-(a)-(b)-WM	WT	1.8	V-0	0	1	105	105	-
		3.0	V-0	0	1	105	105	0
YEt-(a)-(b)-WM	WT	2.0	V-2	0	1	105	105	-
		3.0	V-0	0	1	105	105	0
WH-(a)-(b)-WM	WT	1.8	V-0	0	3	105	105	-
		3.0	V-0	0	3	105	105	0
		9.0	V-0	0	2	105	105	-
CO-(a)-(b)-WM	WT	1.8	V-0	0	3	105	105	-
		3.0	V-0	0	3	105	105	0
		9.0	V-0	0	2	105	105	-

* Insulated busbar, single- and multi-layer, furnished in various configurations

ROLINX busbars are listed under file E48302, for review purposes availabe on the public UL Online Certifications Directory.

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