

ANTISTATIC BRUSHES

TECHNICAL GUIDE



MERSEN

ANTISTATIC BRUSHES

Mersen brushes are composed of thousands of Rigilor® carbon fibres or stainless steel fibres that are particularly efficient in eliminating static electricity.

When non-conducting materials are in discontinuous contact or in friction; they accumulate electrostatic charges that cannot be eliminated by the machine itself.

Under some conditions such as very dry materials and low relative humidity, charged bodies can reach potentials of several thousand volts. This causes problems that can vary from simple unpleasantness to a sudden discharge that can cause accidents, fire or destruction of fragile equipment (electronic circuits).



Circular brush
carbon fibre

There are **various configurations** designed to meet various needs for **collecting static electricity**, particularly in **travelling type manufacturing processes** (plastics, rubber, textiles, paper, packaging film, etc.).

Other applications for our brushes have also been developed in parallel:

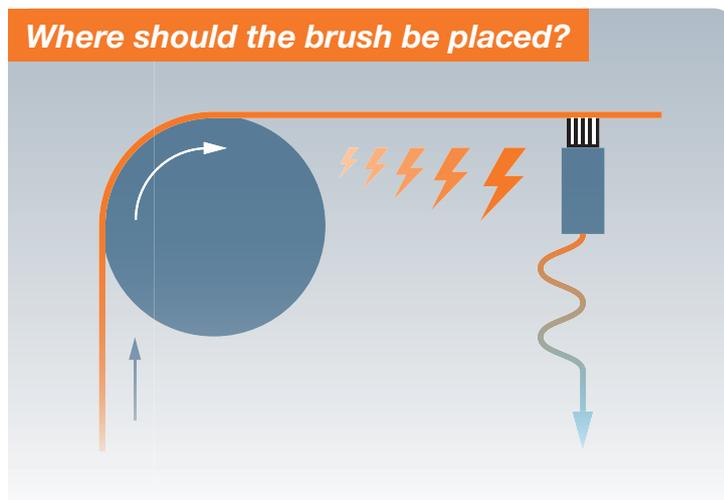
- ▶ **Detection of defects** on large surfaces by electrical contact,
- ▶ **Blocking off light** at the entry-exit to an industrial machine,
- ▶ **Control of a leak flow** for industrial enclosures through which a gas stream flows.

OPERATION OF BRUSHES

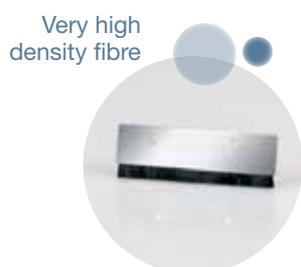
Collecting charges

Antistatic brushes can collect electrical charges either by direct contact between the fibre and the material, or from a distance of up to 1 mm due to the tip effect at the conducting fibres.

The adjacent diagram shows that the brush should be placed after the zone in which electrical charges are created; after a guide roll or at the exit from a coil. The brush mounting must be electrically connected to the machine ground through a metallic conductor if the best possible efficiency is to be obtained.



Folded frame,
thickness = 1,9 mm



Very high
density fibre

Circular brush,
aluminium frame,
thickness = 4 mm



Detection of defects (holes, metal frame)

On large surfaces, by electrical contact. The brush is then powered at low voltage. When the fibre comes into contact (either directly or by the tip effect) with a conducting element, it triggers an alarm or a stop.

Blocking off light

Due to the use of small diameter carbon fibres, our Rigilor® brushes can have a sufficiently high wire density per cm to create a barrier to light and gas stream.

Control of a leak flow

A gas stream can be controlled and maintained by the use of a very high fibre density (small diameter of about 8 microns and variable length). These fibres with supports on each side can also be inclined to limit friction.

A WIDE RANGE

A wide range that is easily integrated into your processes

You can call us and send us your specification. Our experts will be able to advise you and adapt our products to provide you with a solution.



2 fibre types

Rigilor® carbon fibres:

- ▶ Small diameter,
- ▶ Excellent flexibility,
- ▶ Very wide range of wire densities, variable to satisfy a specification (depending on the quantity of electrical charge to be eliminated and the flexibility of the fibre).

Stainless steel fibres:

- ▶ Small diameter,
- ▶ Flexibility and resistance to tearing due to filaments woven in a single piece.

With or without frames

Mounted on a frame:

- ▶ Fibres are mounted in aluminium sections with a standard thickness of 3.5 mm or 1.9 mm and a height of 12, 26 or 45 mm. There are also lug type mountings and circular mountings for more specific needs.

Without a rigid frame:

- ▶ These brushes are designed with copper electrical continuity on one side and adhesive film on the other side, and can be placed anywhere on various shapes of surface.





MERSEN
Expertise, our source of energy

A WORLD EXPERT
in materials and solutions
for high temperature processes

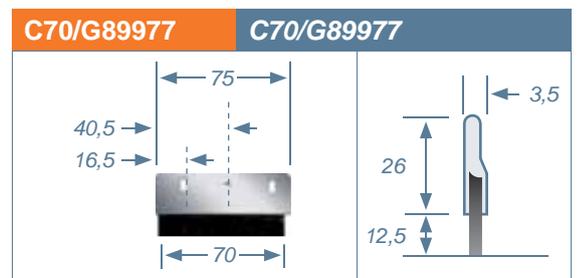
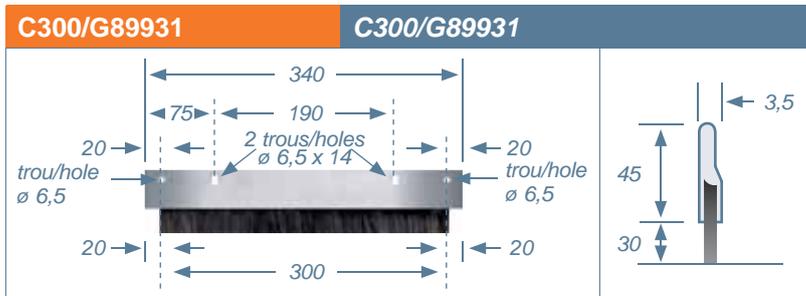
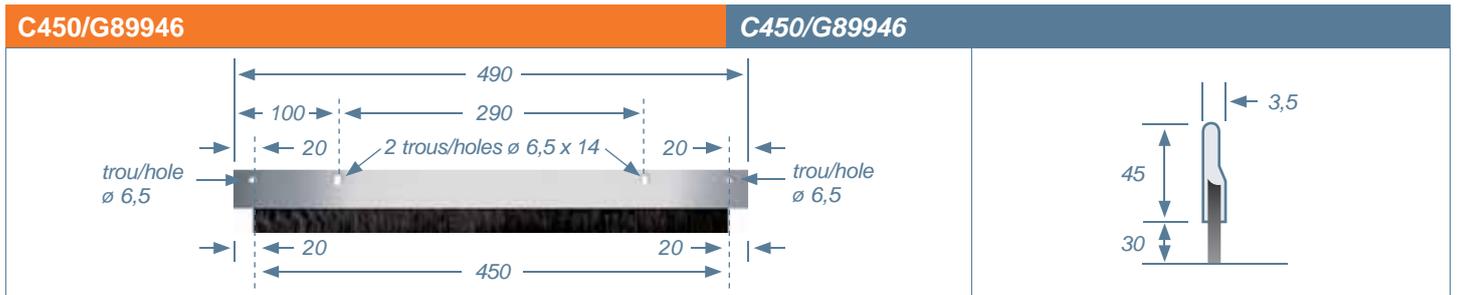
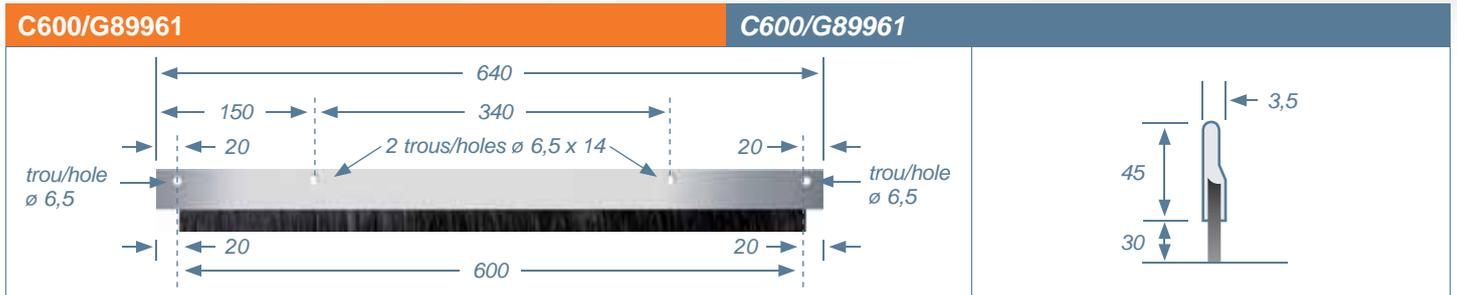
A GLOBAL PLAYER

Global expert in materials and solutions for extreme environments as well as in the safety and reliability of electrical equipment Mersen designs innovative solutions to address its clients specific

needs to enable them to optimize their manufacturing process in sectors such as energy, transportation, electronics, chemical, pharmaceutical and process industries.

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MODÈLES INDUSTRIELS*

INDUSTRIAL DESIGNS*

*Dimensions à la demande / Dimensions on request



POUR UN DEVIS NOUS COMMUNIQUER :	FOR A QUOTATION, THANKS FOR SPECIFYING:
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Type	C600	C450	C300	C70	Monture/Frame 45 or 26 mm	LM	LF	HF	
Quantity	
						Nombre et dimensions des perçages / Quantity and size of the holes /		Quantity of brushes	

MONTURE C12S		FRAME C12S
Monture aluminium striée sur chaque face		Aluminum frame, grooved on each face
Avec ou sans perçage		With or without hole

MONTURE CL12 mm		FRAME CL12 mm
Feuillard aluminium 0,8 mm replié		Aluminium sheet, thickness 0.8 mm, folded
Avec ou sans perçage		With or without hole

BROSSES FLEXIBLES		FLEXIBLES BRUSHES
Fibres carbone + Ruban cuivre sur 1 face et transfert adhésif de l'autre. 2 densités de fibres possibles : 6000 ou 15000 fils/cm. 2 hauteurs de rubans disponibles : 9 ou 12 mm.		Carbon fibres + copper tape on one side and adhesive tape on the other. 2 kinds of density possible for the fibres: 6000 or 15000 filaments/cm. 2 heights of tape available: 9 or 12 mm.
Avec ou sans perçage		With or without hole

PINCEAUX		"PAINT" BRUSHES
Faisceau de fibres serties dans une cosse.		Group of fibres crimped in a lug.
Avec ou sans perçage		With or without hole

BROSSES AVEC FIBRE INOX		BRUSHES WITH STAINLESS FIBRES
Monture : Feuillard aluminium 0,8 mm replié. Nappe : Fibres inox, densité, environ 1000 fils/cm.		Frame: Aluminium sheet, thickness 0.8 mm, folded. Strip: Stainless fibres, density, about 1000 filaments/cm.
Avec ou sans perçage		With or without hole

POUR UN DEVIS NOUS COMMUNIQUER :			FOR A QUOTATION, THANKS FOR SPECIFYING:		
Type	LM	LF or LT (for flexible)	HF or HT (for flexible)	HR (for flexible)	Type cosse Lug
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Nombre et dimensions des perçages / Nombre de brosses			Quantity and size of the holes / Quantity of brushes		