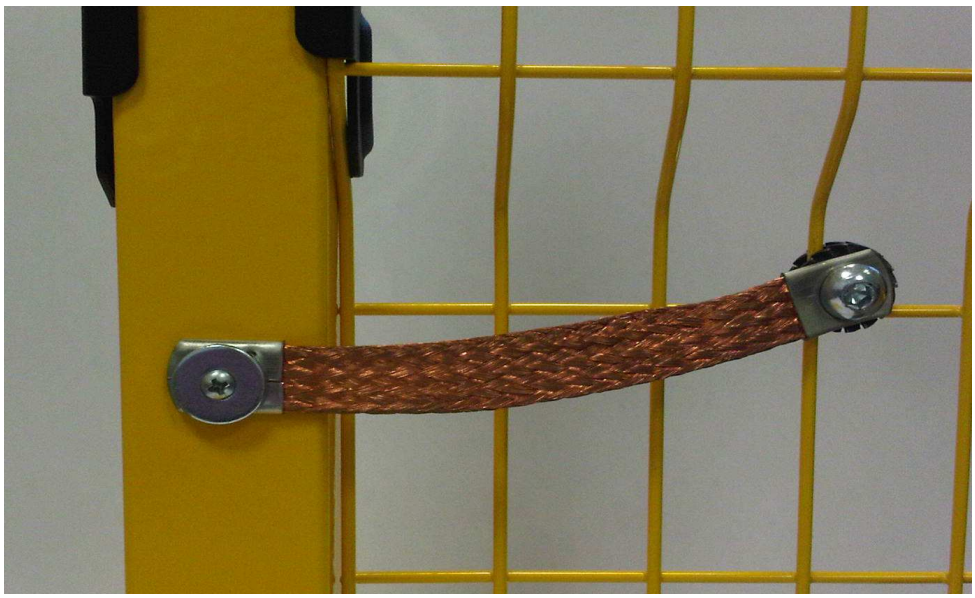
PROTEC
COSTRUZIONI ANTINFORTUNISTICHE

GROUNDING



What do we mean by grounding? When is it used with perimetral protection systems?

First of all, what is the **Electrical conductive part**: *conductive part of electrical equipment, which can be touched and which is not live under normal operating conditions, but which can become live under fault conditions.*

A conductive part of an electrical equipment, which may become live only under fault conditions through an accessible conductive part can not be considered an electrical grounding.

Concerning the protection against indirect contact is also specified that:

Protection against indirect contact is intended to prevent hazardous situations due to an insulation fault between live parts and exposed conductive parts.

Among the proposed methods for the protection against indirect contacts is protection by automatic disconnection of supply.

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At this point, about the possible need to ground the protections of the machines, it's necessary to evaluate whether or not these factors should be considered as electrical groundings, according to this definition. Given that this may depend on the installation conditions, in general you can make the following remarks in reference to the definition of electrical grounding:

- The metal guards are conductive parts that can be touched and are not live in ordinary conditions.

- They can and should be considered part of the electrical equipment only if they are in permanent contact with live parts of the system/machinery (eg, electrical switchboard hanging on a panel, electrical cables running along the panel). If there is no such evidence, the guard is not a conductive part (electrical grounding) and therefore should not be grounded.

- Another condition in order to consider guards conductive parts (electrical groundings) is that they can go live as a result of a failure of insulation of active parts and not for contact with an electrical conductive part. As for the electrical switchboards hanging on the panel, the container of the switchboard is an electrical grounding and therefore it should be grounded. While the shelter may go live only through the container. As far as it concerns the cables, as if usually they are in double insulation (and often in sheath), in case of failure of the insulation, the guard does not go live because there is the second isolation involved. In none of these cases, the guard meets the definition of electrical conductive part and therefore should not be grounded.

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