

Bonding of Commercial Kitchens

Is bonding of metallic counters and worktops mandatory?

In this article we explain common situations where bonding may be required.

Key Information

- What are the BS 7671 requirements for commercial kitchens
- Consideration where machines or equipment is installed

1. Introduction

Commercial kitchens often utilise metallic surfaces and equipment for hygiene purposes.

It is perceived that any metallic items such as fixed food preparation tables, moveable tables, hot plates, serving counters and equipment require supplementary protective equipotential bonding, hereon in referred to as bonding, due to increased risk of electric shock.

Is bonding of metallic counters and kitchen worktops a requirement? Invertedly bonding a surface that doesn't necessitate it could introduce an electric shock risk. Generally this is not required.

In this bulletin we highlight some of the key areas for Members to consider.

2. BS 7671 requirements

BS 7671 does not mandate that metallic surfaces of commercial kitchens shall be bonded. In BS 7671 terms, free-standing catering tables are neither classed as an 'extraneous-conductive-part' or 'exposed-conductive-part', so would not require bonding and the designer needs to be mindful that unnecessarily bonding items such as these could introduce an electric shock risk where no risk needed to be introduced.

The designer of the electrical installation may, however, perceive there to be an increased electric shock risk in that particular location and specify additional bonding, though this is certainly not always the case.

3. Do you need to consider bonding when a machine is installed?

There is a consideration to provide bonding where a 'machine' is introduced into an electrical installation under BS 60204-1 (Safety of machinery. Electrical equipment of machines). Any equipment, portable or static will be 'earthed' via its own circuit protective conductor (cpc) in its supply cable.

However machines and equipment which feed in and out, such as a pass-through dishwasher would likely have tables attached which are connected mechanically and therefore the tables are part of the electrical system as an 'exposed-conductive-part' – these would need to be 'earthed' but this is likely to be achieved via bolting the parts together (*Members should check manufacturer instructions as per BS 7671 Regulation 134.1.1*) and they would therefore be in contact with the cpc for the machine.



Figure 1 – Pass-through commercial dishwasher

4. Summary

Is additional bonding always needed in commercial kitchens? – *not always.*

Do some commercial kitchens require bonding? – *yes, under certain circumstances as described.*

Do free-standing tables and kitchen counters require bonding? – *not according to BS 7671.*

Do electrical items such as pass-through dishwashers require bonding? – *not the equipment itself as the supply cable cpc will be sufficient, however the associated 'tables' forming part of the machine will certainly become an exposed conductive part and need a connection via the machine to the cpc.*



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