

The food industry is constantly evolving, so hygiene and safety must be ensured not only through the control of raw materials and production processes, but also through the equipment and mechanisms used for the production and processing of food products.

Directive 2006/42/EC on machinery and mechanisms (Regulation 2023/1230) defines the regulatory framework for food industry equipment.

Advances in production technology have made it extremely important to ensure the safe design and operation of food equipment in order to prevent contamination, guarantee product quality and protect consumers from potential health risks. In this context, the design of equipment used in the production and preparation of foodstuffs plays a crucial role.

Hygienic design involves designing equipment and systems that comply with the hygiene requirements set out in regulations, quality standards and guidelines. These regulations are aimed at ensuring ever higher levels of food hygiene and safety and preventing product contamination. Hygienic design of equipment and systems in the food industry is a mandatory basic criterion in Europe, including in accordance with the new Machinery Regulation (Regulation (EU) 2023/1230), which came into force on 19 July 2023 and repeals the current Machinery Directive.

The choice of materials and the design of components (surfaces, covers, panels, seals, internal corners and edges, control and measuring devices, and 'dead zones') must be aimed at reducing hygiene hazards that may arise from various sources. These may include microbiological factors such as the proliferation of pathogens, viruses and mould; chemical factors such as detergents and disinfectants; and causes related to food raw materials, the equipment itself or other sources such as the presence of foreign objects.

Safety and hygiene in the food industry are a constant priority in technical standardisation. The standards are intended for a wide range of parties, from equipment manufacturers to market surveillance authorities, from professional users to maintenance service providers

Food processing machinery standards Safety and hygiene requirements

EN 12041 Food processing machinery - Moulders - Safety and hygiene requirements

EN 12042 Automatic dough dividers – Safety and hygiene requirements

EN 12043 Intermediate provers - Safety and hygiene requirements

EN 12267 Circular saw machines – Safety and hygiene requirements

EN 12268 Band saw machines - Safety and hygiene requirements

EN 12331 Mincing machines - Safety and hygiene requirements

EN 12355 Derinding-, skinning- and membrane removal machines - Safety and hygiene requirements

EN 12463 Filling machines and auxiliary machines - Safety and hygiene requirements

EN 12505 Centrifugal machines for processing edible oils and fats - Safety and hygiene requirements

EN 12851 Catering attachments for machines having an auxiliary drive hub - Safety and hygiene requirements

EN 12852 Food processing machinery - Food processors and blenders - Safety and hygiene requirements

EN 12853 Food processing machinery - Hand-held blenders and whisks - Safety and hygiene requirements

EN 12854 Food processing machinery - Beam mixers - Safety and hygiene requirements

EN 12855 Food processing machinery - Rotating bowl cutters - Safety and hygiene requirements

EN 12984 Food processing machinery - Portable and/or hand-guided machines and appliances with mechanically driven cutting tools - Safety and hygiene requirements

EN 13208 Food processing machinery - Vegetable peelers - Safety and hygiene requirements

EN 13288 Food processing machinery - Bowl lifting and tilting machines - Safety and hygiene requirements

EN 13389 Food processing machinery - Mixers with horizontal shafts - Safety and hygiene requirements

EN 13390 Food processing machinery - Pie and tart machines - Safety and hygiene requirements

EN 13534 Food processing machinery - Curing injection machines - Safety and hygiene requirements

EN 13570 Food processing machinery - Mixing machines - Safety and hygiene requirements

EN 13591 Food processing machinery - Fixed deck oven loaders - Safety and hygiene requirements

EN 13621 Food processing machinery - Salad dryers - Safety and hygiene requirements

EN 13732 Food processing machinery - Bulk Milk Coolers on Farms - Requirements for construction, performance, suitability for use, safety and hygiene

EN 13870 Food processing machinery - Portion cutting machines - Safety and hygiene requirements

EN 13871 Food processing machinery - Cubes cutting machinery - Safety and hygiene requirements

EN 13885 Food processing machinery - Clipping machines - Safety and hygiene requirements

EN 13886 Food processing machinery - Cooking kettles equipped with powered stirrer and/or mixer - Safety and hygiene requirements

EN 13954 Food processing machinery - Bread slicers - Safety and hygiene requirements

EN 14655 Food processing machinery - Baguette slicers - Safety and hygiene requirements

EN 14957 Food processing machinery - Dishwashing machines with conveyor - Safety and hygiene requirements

EN 14958 Food processing machinery - Machinery for grinding and processing flour and semolina - Safety and hygiene requirements

EN 15166 Food processing machinery - Automatic back splitting machines of butchery carcasses - Safety and hygiene requirements

EN 15774 Food processing machinery - Machines for processing fresh and filled pasta (tagliatelle, cannelloni, ravioli, tortellini, orecchiette and gnocchi) - Safety and hygiene requirements

EN 15861 Food processing machinery - Smokehouses - Safety and hygiene requirements

EN 1672-2 Food processing machinery - Basic concepts - Part 2: Hygiene requirements

EN 1673 Food processing machinery - Rotary rack ovens - Safety and hygiene requirements

EN 16743 Food processing machinery - Automatic industrial slicing machines - Safety and hygiene requirements

EN 1674 Food processing machinery - Dough and pastry brakes - Safety and hygiene requirements

EN 1678 Food processing machinery - Vegetable cutting machines - Safety and hygiene requirements

EN 17677 Food processing machinery - Craft bakery and pastry depositors - Safety and hygiene requirements

EN 1974 Food processing machinery - Slicing machines - Safety and hygiene requirements

EN 453 Food processing machinery - Dough mixers - Safety and hygiene requirements

EN 454 Food processing machinery - Planetary mixers - Safety and hygiene requirements

EN 13289 Pasta processing plants - Dryers and coolers - Safety and hygiene requirements

EN 13378 Pasta processing plants - Pasta presses - Safety and hygiene requirements

EN 13379 Pasta processing plants - Spreader, stripping and cutting machine, stick return conveyor, stick magazine - Safety and hygiene requirements

EN 13951 Liquid pumps - Safety requirements - Agrifoodstuffs equipment - Design rules to ensure hygiene in use

EN ISO 14159 Safety of machinery - Hygiene requirements for the design of machinery

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