



Clean as a whistle:

Hygienic design in the bakery industry.

The RONDO hygiene checklist.

Based on the principles of Hygienic design, a checklist to verify the hygiene standards of new or planned systems was

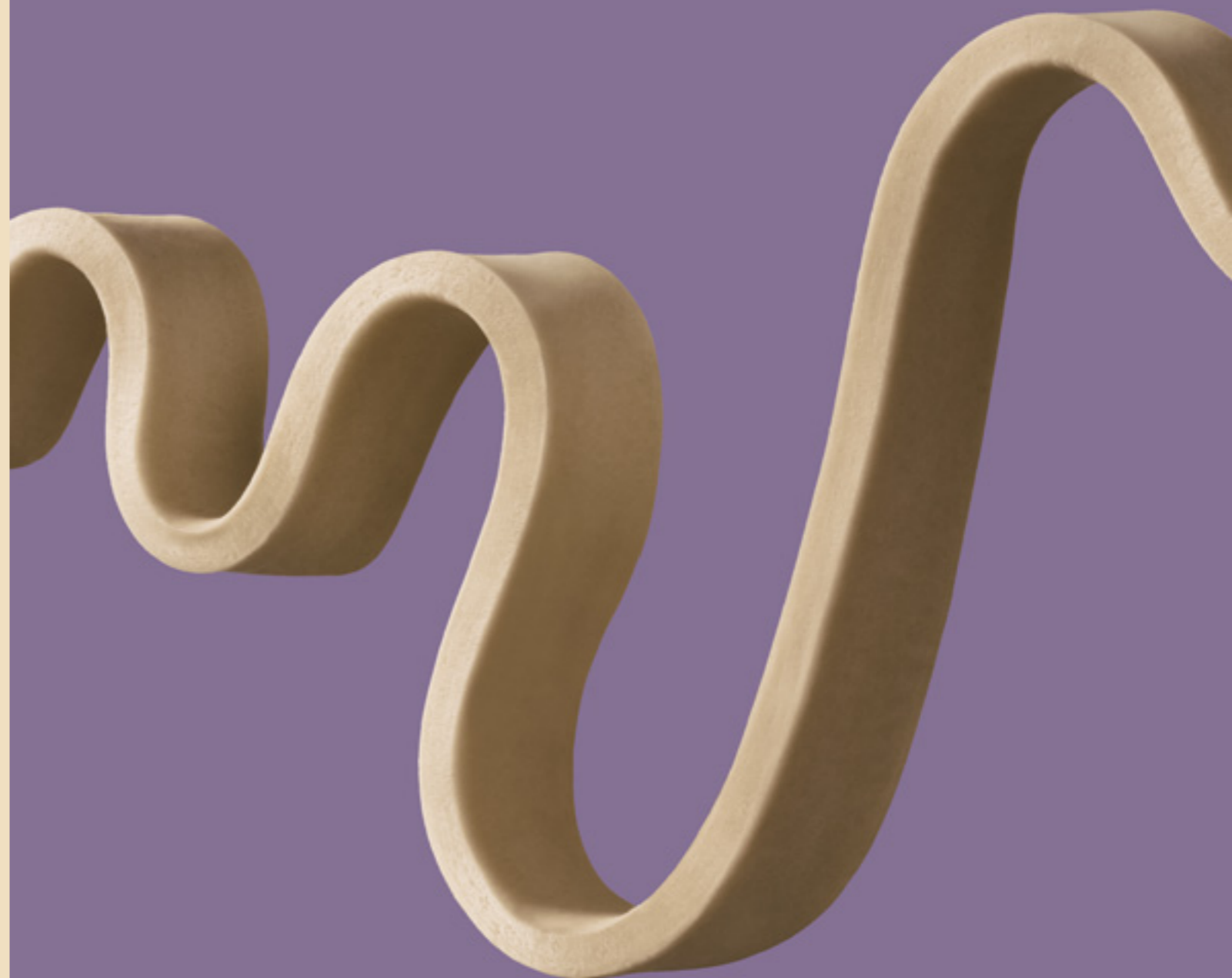
defined. It is used to identify priorities for improvements to existing systems or to evaluate new machines.

	Actual	Target
Cleaning Is the cleaning procedure carried out in line with GMP standards or other quality standards that can be verified by means of active monitoring programmes?		115
Compatible materials Are all equipment materials used compatible with the products, the environment and chemical cleaning agents?		80
Access Are all system sections easily accessible for cleaning and hygiene, maintenance and inspection?		160
No material deposits Is the system free of niches in which products or liquids can accumulate? Does self draining prevent the accumulation of waste or liquids?		70
Sealed cavities Are cavities avoided or are they permanently sealed?		65
No niches Does the system have indentations, slits, corrosion, gaps, recesses or open seams? Are all the welding seams smooth?		185
Hygiene function When under normal operating conditions, does the machine contribute to the propagation of bacteria?		125
Hygiene design for maintenance Are the man-machine interfaces designed and constructed in such a way that neither products nor liquids can penetrate?		35
Hygiene compatibility with other systems Is the machine design compatible with the bakery equipment and other systems such as power, steam, air and water systems?		30
Cleaning methods Are the cleaning methods effective and efficient? Are they recorded? Are the chemicals used compatible?		70
Separate processes Are different work processes separated to prevent cross contamination or to prevent products from being tampered with?		25
Equipment and personnel Are equipment cleanliness standards and personnel hygiene requirements in compliance?		40
Total number of points		1000

Evaluation
The purpose of the checklist is to evaluate a system and its environment, to identify potential areas for improvement and to support the continuous improvement process.

Evaluations
Requirements met to satisfactory degree
Requirements met in part
Requirements met to inadequate degree
Maximum number of points

Full number of points
Half the total number of points
No points
1000 points



The 10 principles of hygienic design.

Hardly anything is more important than hygiene. Especially in the case of food. That is why a high standard of hygiene is required for production systems. These 10 principles based on the GMA check-list are features of machines and systems that meet the requirements for a high standard of hygiene.

Cleaning

- Cleaning is carried out in line with GMP standards or other quality standards that can be verified by means of active monitoring programmes.

Compatible materials

- The materials used are compatible with the products, the environment and chemical cleaning agents.

Access

- All system sections are easily accessible for cleaning and hygiene, maintenance and inspection.

No material deposits

- The system is free of niches in which products or liquids can accumulate. Self draining prevents the accumulation of waste or liquids.

Sealed cavities

- Cavities are avoided or must be permanently sealed.

No niches

- The system has no indentations, slits, corrosion, gaps, recesses or open seams. All welding seams should be smooth.

Hygiene function

- Under normal operating conditions, the machine does not contribute to the propagation of bacteria.
- Man-machine interfaces such as buttons, valve levers etc. are designed in such a way that neither products nor liquids can penetrate.
- The machine design is compatible with the bakery equipment and other systems such as power, steam, air and water systems.

Cleaning methods

- The cleaning methods are effective and efficient and are recorded. The chemicals used are compatible.

Separate processes

- Wherever possible, different work processes are separated to prevent them cross contamination or to prevent products from being tampered with.

Equipment and personnel

- The cleanliness requirements for the equipment and the hygiene requirements for the personnel are in compliance.

ASTec lines: easy to clean, easy to maintain, easy to inspect.

RONDO ASTec (Advanced Sanitary Technology) lines are configured for demanding hygiene requirements. The engineering design is in line with the needs of hygiene and high-quality materials have been used to ensure rapid and reliable cleaning. Niches and horizontal surfaces have been avoided. Micro-organisms, dough and product scraps can no longer accumulate. Cleaning of the ASTec line is conducted according to individually defined computer-based programs and is recorded for audit and regulation requirements.

The advantages of ASTec lines are obvious

- Production of pastries with high quality and long shelf life, also without preservatives, is enabled.
- Shorter cleaning and maintenance times, leading to a reduction in costs and longer production time.
- Easy access to all important components.
- No accumulation of product scraps or materials in niches or cavities.
- Computer-based cleaning programs enable maximum hygiene that is reproducible at any time.



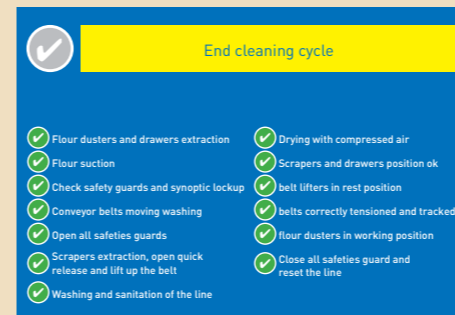
Only materials that can be easily cleaned are used. The conveyor belt in addition has sealed edges.



The wide-opening protective covers, the belt management system and the free spaces between the individual line components ensure good accessibility to all points where cleaning is required.



You can define individual cleaning programs and store them in the modern control system.



The operators confirm execution of each cleaning step and you are automatically provided with documentation of the cleaning for your next audit.



All parts of the ASTec line have been constructed in such a way that no materials can accumulate in niches or cavities.



There are two versions of ASTec lines: one for wet cleaning and one for dry cleaning.