

**TECHNICAL REFERENCE**

# **Hygiene requirements for automated dishwashing**



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*Kopitiam Investment Pte Ltd*  
*Mr Teh Tarik Group*  
*National Environment Agency*  
*PUB, Singapore's National Water Agency*  
*SATS Catering Pte Ltd*  
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*Timbre Group Pte Ltd*

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**Contents**

	<b>Page</b>
National Foreword _____	6
1 Scope _____	8
2 Normative references _____	8
3 Terms and definitions _____	8
4 Provisions _____	11
4.1 Process requirements _____	11
4.2 Technical and functional provisions _____	12
4.3 Provisions relating to the treatment agents _____	18
4.4 Provisions relating to the wash ware _____	19
5 Halal dishwashing _____	20
 <b>Annex</b>	
ZA National deviations _____	21
 <b>Tables</b>	
1 Microbiological requirements for wash ware _____	12
2 Temperatures of water for different processes _____	14

## **National Foreword**

This Technical Reference (TR) was prepared by the Working Group on Automated Dishwashing under the direction of the Food Standards Committee (FSC).

This TR is a modified adoption of the English version of DIN SPEC 10534 Food hygiene – Commercial dishwashing – Hygiene requirements, testing. The modifications to DIN SPEC 10534 are given in Annex ZA. To facilitate identification, the affected text of the DIN SPEC which has been changed is indicated by a left marginal bar adjacent to it.

F&B outlets are turning towards the use of automated dishwashers so that dishwashing personnel can be redeployed to higher value-added jobs, and the outlets can achieve consistent levels of cleanliness for crockery.

There is currently no requirement established for automated dishwashing on processes to ensure consistent hygienic outcome that is widely accepted by the F&B industry in Singapore.

This Technical Reference (TR) seeks to ensure cleanliness of wash ware being cleaned and to optimise processes in automated dishwashing. It aims to address inconsistent dishwashing processes leading to varying hygiene outcomes.

This TR is a provisional standard made available for application over a period of three years. The aim is to use the experience gained to update the TR so that it can be adopted as a Singapore Standard. Users of the TR are invited to provide feedback on its technical content, clarity and ease of use. Feedback can be submitted using the form provided in the TR. At the end of the three years, the TR will be reviewed, taking into account any feedback or other considerations, to further its development into a Singapore Standard if found suitable.

In preparing this standard, reference was also made to the following publications:

1. Australia New Zealand Food Standards Code Chapter 3 (Australia Only), A Guide to the Food Safety Standards, Appendix 4: Cleaning and Sanitising Surfaces and Utensils, Australia New Zealand Food Authority, Second edition, January 2001, Extracted from <https://www.foodstandards.gov.au/publications/documents/Appendix3.pdf>
2. Energy Star Program Requirements Product Specification for Commercial Dishwashers, Eligibility Criteria, Version 2.0, 25 June 2012, Extracted from [https://www.energystar.gov/sites/default/files/specs//private/ENERGY%20STAR\\_CD\\_V2.0\\_Final%20Specification.pdf](https://www.energystar.gov/sites/default/files/specs//private/ENERGY%20STAR_CD_V2.0_Final%20Specification.pdf)

Acknowledgement is made for the use of information from the above publications.

At the time of publication, this Technical Reference is expected to be used by food service buyers, service providers, manufacturers and in-house teams.

Attention is drawn to the possibility that some of the elements of this Technical Reference may be the subject of patent rights. SPRING Singapore shall not be held responsible for identifying any or all of such patent rights.

**NOTE**

1. *Singapore Standards (SS) and Technical References (TR) are subject to periodic review to keep abreast of technological changes and new technical developments. The changes are documented through the issue of either amendments or revisions.*
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## Hygiene requirements for automated dishwashing

### 1 Scope

This Technical Reference (TR) specifies hygiene requirements relating to the design, construction and operation of commercial dishwashers of a wide variety of designs and provides information on their hygienic and proper operation, cleaning and disinfection of wash ware, and care and maintenance of the machinery. It describes the methods for testing hygienic operation. It also specifies principles for proper spatial and functional arrangements within the dishwashing area and for proper and hygienic organisation of the wash ware cycle.

This TR applies to on-site and off-site commercial dishwashers for cleaning wash ware that is used in contact with food, such as e.g. crockery, glassware and cutlery, reusable boxes and similar articles. It includes a clause on Halal dishwashing requirements.

Commercial dishwashers (see clause 3.3) are used in kitchens e.g. in restaurants, canteens and hospitals and in commercial enterprises such as e.g. bakeries, butcher's shops, etc.

### 2 Normative references

There are no normative references cited in this TR.