

Household Dishwashers

Ecodesign & Energy Labelling
Compliance Assessment

Summary Report



Household Dishwashers: Ecodesign and Energy Labelling Compliance Assessment

Summary report

September 2024

Sustainable Energy Authority of Ireland

SEAI is Ireland's national energy authority investing in, and delivering, appropriate, effective and sustainable solutions to help Ireland's transition to a clean energy future. We work with the public, businesses, communities and the Government to achieve this, through expertise, funding, educational programmes, policy advice, research and the development of new technologies.

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Introduction

The Sustainable Energy Authority of Ireland (SEAI) is the Market Surveillance Authority (MSA) for the enforcement of legislation relating to energy labelling and ecodesign of energy-related products in Ireland. This report gives an overview of the results of ecodesign and energy labelling market surveillance of household dishwashers.

Organised between 2021 and 2024 by SEAI, this work was conducted as part of ongoing national market surveillance activities relating to the Ecodesign Directive 2009/125/EC and Energy Labelling Regulation (EU) 2017/1369. This summary report summarises the findings from product assessments carried out to date across two product campaigns commenced in 2021 and 2022 respectively. A small number of cases are still ongoing.

This report identifies the levels of non-compliance encountered relating to household dishwasher products that were available on the Irish and broader European market. It may facilitate a degree of comparison over time between other household dishwasher market surveillance initiatives. An interim report detailing the findings of the 2021 product assessment campaign was previously published and is available on the SEAI website.

At the beginning of this product campaign, the Minister for the Environment, Climate, and Communications was the MSA for ecodesign and energy labelling in Ireland. SEAI provided operational support to the Minister by organising market surveillance on their behalf. The MSA designation transferred to SEAI in December 2022.

Relevant legislation

The regulations and standards in force at the time and used to verify compliance of household dishwashers were:

Applicable regulations:

- Commission Regulation (EU) 2019/2022 of 1 October 2019 laying down ecodesign requirements for household dishwashers pursuant to Directive 2009/125/EC of the European Parliament and of the Council amending Commission Regulation (EC) No 1275/2008 and repealing Commission Regulation (EU) No 1016/2010
- Commission Delegated Regulation (EU) 2019/2017 of 11 March 2019 supplementing Regulation (EU) 2017/1369 of the European Parliament and of the Council with regard to energy labelling of household dishwashers and repealing Commission Delegated Regulation (EU) No 1059/2010

Applicable standards:

- EN 60436 Electric dishwashers for household use — Methods for measuring the performance
- EN 60704-2-3:2019/A11:2019 Household and similar electrical appliances — Test code for the determination of airborne acoustical noise — Part 2-3: Particular requirements for dishwashers

Applicable statutory instruments:

- S.I. No. 454/2013 - European Union (Ecodesign Requirements for Certain Energy-related Products) (Amendment) Regulations 2013 (as amended)
- S.I. No. 671/2022 - European Union (Ecodesign Requirements for Certain Energy - Related Products) (Amendment) Regulations 2022
- S.I. No. 366/2011 - European Union (Energy labelling) Regulations 2011 (as amended)
- S.I. No. 669/2022 - European Union (Energy Labelling) Regulations 2022

Market screening and product selection

A long list of household dishwashers in scope of the regulations was compiled from several sources to provide a reasonable representation of the household dishwasher products on sale to consumers in Ireland. Sources included household dishwasher product listings on electrical retailers' and manufacturers' websites.

A 'risk-based' approach was taken to product selection for both product campaigns. A higher level of risk was assigned to:

- products thought to have greatest market penetration,
- budget brands,
- lower cost models, and
- more recent market entrants.

In 2021, 15 product models were selected for assessment from 10 different manufacturers. In 2022, 15 product models were selected from 11 different manufacturers.

Product selection for the 2022 campaign was also informed by the findings of the 2021 campaign with 11 products selected for assessment from seven manufacturers whose products were assessed in the previous campaign. The remaining four products were selected from manufacturers whose products had not previously been assessed by the MSA.

Campaign results

2021 Campaign assessment of compliance with formal (administrative) requirements

Formal written requests for the provision of appropriate technical documentation were issued to 10 manufacturers relating to 15 household dishwasher products. Technical documentation was received for all 15 products.

On initial assessment of the 15 responses, the MSA found that no complete technical documentation file indicating compliance with ecodesign and energy labelling requirements had been provided. In our experience, high levels of formal non-compliance are commonly found at the initial stage of product compliance assessment.

Over the course of the campaign, it was discovered that a manufacturer had placed three dishwasher products of different brands on the Single Market in error, in early 2021. The three products were intended for the UK market alone, with technical documentation, including the energy label, relevant to the UK market. The manufacturer confirmed that the products in question had been withdrawn from the Irish market and were no longer available for sale through Irish retailers. Following an examination of the technical documentation received and confirmation by the manufacturer of satisfactory rectification of their error, the MSA decided not to undertake any further assessment of these products. It was also decided not to undertake any further assessment of a product from a different manufacturer which had been discontinued in 2020. As a result, a total of 11 household dishwashers were fully assessed during this campaign.

The following provides a summary of the findings of the formal compliance assessments undertaken, with further explanation provided below. These findings relate to the initial assessment of compliance based on the technical documentation provided.

Summary of formal compliance assessments 2021

Declaration of Conformity

45%



Technical Documentation

0%



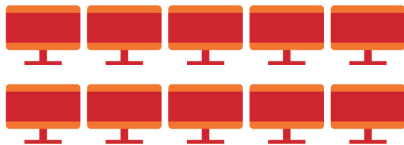
Product Information Sheet

100%



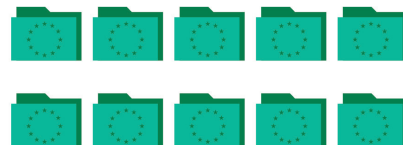
Website Information

0%



EPREL Registration

100%



Energy Label

100%



Note: percentage shows compliance

The findings of the formal compliance assessments are summarised and described as follows:

Declaration of Conformity refers to non-compliant aspects of the Declaration of Conformity (DoC) encountered. These typically included missing references to the applicable regulation and test standards.

Technical documentation non-compliances includes:

- absence of certain relevant documentation or specific aspects required,
- incomplete product information or product information not set out in the required format,
- technical documentation values not supporting the declared values,
- no test conditions or measurement methodologies described, or
- compliance with resource efficiency requirements not fully established.

Energy label refers to non-compliances related to inaccurate energy labels.

Product information sheet refers to non-compliances related to incorrect format, or not providing relevant information from the product information sheet in manuals or brochures.

Website information refers to non-compliances relating to the supplier's website, where there is typically a failure to provide all of the required ecodesign-related information on free access websites.

% Compliant refers to the percentage of instances where compliant documents were provided (usually after more than one request), where no non-compliances were identified, and no changes were required from the economic operator.

Non-compliant refers to the instances where non-compliance with respect to the applicable regulations have been identified by the MSA. Actions carried out by the economic operator to rectify such formal non-compliances when identified by the MSA are referred to as 'corrective actions'.

The most common non-compliances encountered when assessing technical documentation were related to:

- resource efficiency requirements,
- requested documentation not submitted, and
- the harmonised standard not referenced in the product Declaration of Conformity.

Where non-compliance was identified, this was addressed by economic operators through engagement with the MSA during the formal compliance assessment phase. Corrective actions undertaken by economic operators included amending product entries on the EPREL product database, providing previously omitted technical documentation, providing amended versions of technical documentation, and website improvements related to product information and resource efficiency requirements.

2021 Campaign assessment of compliance with technical requirements (laboratory testing)

Laboratory testing can be undertaken by an MSA to verify whether a product meets the performance-related requirements of the relevant regulations. Typically, this involves testing one unit of the product and if this fails to meet the requirements of the regulations, another three units of the same product must be tested to verify non-compliance.

Three household dishwashers were selected for verification testing in a laboratory, based on findings from the technical documentation checks, such as results for product testing deemed at risk of not meeting limit values or not providing requested information.

An appropriate laboratory was selected for testing and one unit of each of the three selected models was purchased from website suppliers. These units were purchased and shipped to the testing laboratory in a single batch between December 2021 and February 2022, in accordance with a chain of custody procedure.

The following parameters were measured and reported upon by the laboratory:

- Eco Programme Energy Consumption (EPEC)
- Energy Efficiency Index (EEI)
- Eco Programme Water Consumption (EPWC)
- Airborne Acoustic Noise Emissions (dB)
- Duration of the Eco Programme (T_{\downarrow})
- Cleaning Performance Index (I_C)
- Drying Performance Index (I_D)
- Power consumption in off mode (P_o)
- Power consumption in standby mode (P_{sm})

where:

Eco Programme Energy Consumption (EPEC) refers to the energy consumption of a household dishwasher for the eco programme, expressed in kilowatt hour per cycle.

Energy Efficiency Index (EEI) refers to the ratio of the eco programme energy consumption to the standard programme energy consumption.

Eco Programme Water Consumption (EPWC) refers to the water consumption of a household dishwasher for the eco programme, expressed in litres per cycle.

Airborne Acoustic Noise Emissions refers to the noise emissions of a household dishwasher model measured and/or calculated using the eco programme, with the household dishwasher loaded at rated capacity.

Duration of the Eco Programme (T_{\downarrow}) refers to the length of time beginning with the initiation of the eco programme, excluding any user programmed delay, until the end of the programme is indicated, and the user has access to the load.

Cleaning Performance Index (I_C) refers to the ratio of the cleaning performance of a household dishwasher to the cleaning performance of a reference household dishwasher.

Drying Performance Index (I_D) refers to the ratio of the drying performance of a household dishwasher to the drying performance of a reference household dishwasher.

Power consumption in off mode (P_o) refers to the amount of electrical power consumed by an electronic device when it is switched off but still plugged into a power source.

Power consumption in standby mode (P_{sm}) refers to the electrical power consumed by a device when it is not in active use but is in a state that allows it to quickly resume full operation upon receiving a command or signal.

2021 Technical assessment results

None of the three models tested achieved the minimum Cleaning Performance Index required under the regulation. In addition, one out of three of the products tested did not achieve the Drying Performance Index level required under the regulation. However, with application of the verification tolerances set out in the regulation, all products tested were deemed to be compliant for the parameters tested.

Test product ID no.	Required Cleaning Performance Index (I_C)	Measured Cleaning Performance Index (I_C)	Test results
1	1.12	0.98	Pass within tolerance
2	1.12	1.06	Pass within tolerance
3	1.12	0.99	Pass within tolerance

Table 1: Initial testing results for Parameter Cleaning Performance Index (I_C)

Test product ID no.	Required Drying Performance Index (I_D)	Measured Drying Performance Index (I_D)	Test results
1	1.06	0.99	Pass within tolerance
2	1.06	1.16	Pass
3	1.06	1.12	Pass

Table 2: Initial testing results for Parameter Drying Performance Index (I_D)

As all three products were deemed compliant for the parameters tested during the initial round of product testing, triplicate testing of these products was not required.

2022 Campaign assessment of compliance with formal (administrative) requirements

During the 2022 campaign, formal written requests were issued to 11 manufacturers requesting appropriate technical documentation related to 15 products. Responses were received for all 15 products.

On assessment of the initial responses received from manufacturers, as with the 2021 campaign, the MSA found that no complete technical documentation file was provided indicating compliance with ecodesign and energy labelling requirements. As noted previously, high levels of non-compliance based on initial responses is not uncommon at the initial stages of product compliance assessment.

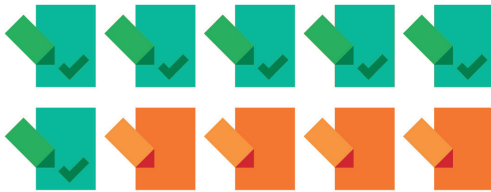
The following provides a summary of the findings of the formal compliance assessments undertaken, using the same criteria as the 2021 product campaign. Further explanation of the findings detailed below is provided on page 6 of this report.

The reasons for non-compliance encountered during the 2022 campaign were similar in nature to those encountered in the 2021 campaign (see page 5). They were addressed in the same manner, through voluntary corrective actions undertaken by the economic operators concerned, in response to compliance advice provided by the MSA.

Summary of formal compliance assessments 2022

Declaration of Conformity

60%



Technical Documentation

0%



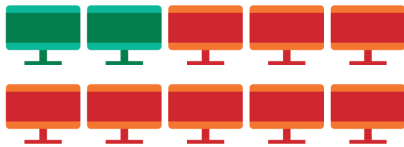
Product Information Sheet

53%



Website Information

20%



EPREL Registration

80%



Energy Label

67%



Note: percentage shows compliance

2022 Campaign assessment of compliance with technical requirements (laboratory testing)

Based on the testing results from the 2021 campaign and the good levels of engagement with economic operators during the 2022 campaign, the MSA decided not to undertake any product testing for this campaign. Factors considered in arriving at this decision included:

- The verification tolerances for the parameters Cleaning Performance Index and Drying Performance Index allow for measured values to be 14% and 12% less than declared values respectively, providing a relatively wide margin for error.
- Received technical documentation indicated that the products assessed were likely to return pass results for the parameter Energy Efficiency Index.

Main findings from 2021 and 2022 campaigns

Formal assessments

Of the 26 products which were fully assessed in 2021 and 2022, formal non-compliances were identified in all cases. While high rates of formal non-compliance have been encountered by the MSA in other product category assessments, this level of formal non-compliance is even higher than usual.

Following engagement with the manufacturers concerned, 23 out of 26 (88%) products have been brought into compliance. Engagement is ongoing in relation to the remaining three open cases, which we expect will be brought into compliance shortly.



Common formal non-compliances identified during these campaigns included issues with the content on Declaration of Conformity documents, where one or more of the elements required under Annex VI of Ecodesign Directive 2009/125/EC was absent from the document. Typically, the missing information related to:

- the relevant test method used in determining ecodesign compliance,
- the appropriate implementing measure, and
- the description of the product necessary for its unambiguous identification.

Of the 26 products assessed, 14 compliant Declaration of Conformity documents were received, with the issues encountered within the 12 remaining cases resolved following engagement with the manufacturer by the MSA.

Additionally, product information requirements were commonly not fully demonstrated, with formal non-compliance with these requirements found in 23 out of 26 cases. The most common non-compliance found was the absence of the product manual and associated product information in economic operators' responses, along with the absence of information in technical documentation related to low power modes. Compliance with the requirement to register products on the EPREL database was quite high with 23 out of 26 cases registered based on initial response received. The remaining cases were brought into compliance following engagement.

Ecodesign Regulation (EU) 2019/2022 saw the introduction of resource efficiency requirements for household dishwasher products. These are intended to improve the durability and reparability of these products through requirements on the availability of spare parts and access to repair and maintenance information. This regulation was also among the first ecodesign regulations with these requirements. Over the course of the two dishwasher campaigns, there appeared to be only partial understanding from economic operators of these regulations. This may be the rationale for the observed level of formal non-compliance.

Resource efficiency requirements also require information to be provided on the free access websites of manufacturers or importers. Following engagement from the MSA, substantial improvements to the free access websites of several manufacturers were observed. In some instances, new online portals were developed which allowed end-users to access the required product information and to order spare parts.

The three open cases remaining all relate to a single manufacturer, with engagement ongoing to address the resource efficiency requirements. It is expected that the required amendments will be completed by this manufacturer in the short term, and that these three products will subsequently be brought into compliance.

Laboratory Testing

Laboratory verification testing of products was carried out as part of the 2021 campaign with three products selected for testing following the review of the technical documentation received. Of the three products tested, all recorded pass results with the use of verification tolerance values for the Energy Efficiency Index and Cleaning Performance Index parameters. Two products returned pass results for the parameter Drying Performance Index, while the third product also returned a pass result for this parameter with the use of verification tolerance values.

Given the results of testing obtained from the first dishwasher campaign and following evaluation of the technical documentation files received for the products assessed during the second dishwasher campaign, the probability of these products being technically non-compliant was considered to be low – insufficient to justify subjecting any of them to laboratory verification testing.

Summary

Over the course of the two dishwasher campaigns, a total of 26 household dishwasher products were assessed for compliance against ecodesign and energy labelling requirements. Of the 26 products selected for assessment, formal non-compliances were identified in all 26 cases. Where technical documentation non-compliance has been identified, in most instances, such non-compliance has been rectified voluntarily by the economic operator, without recourse to formal enforcement measures. Following engagement with manufacturers, 23 out of 26 cases have been brought into compliance, with the remaining three cases related to one manufacturer expected to be brought into compliance shortly.

Laboratory verification testing was undertaken for three selected products as part of the 2021 campaign. Of the three models tested, all three failed to achieve the minimum Cleaning Performance Index required under the regulation. In addition, one out of three of the products tested did not achieve the Drying Performance Index level required under the regulation. However, with the application of the verification tolerances set out in the regulation, all products tested were deemed to be compliant with the parameters tested. Given the results of laboratory testing obtained during the 2021 campaign, it was decided not to undertake further testing as part of the 2022 campaign.

The main sources of formal non-compliance identified related to the non-provision of relevant technical documentation, and the omission of resource efficiency requirements information from technical documentation and manufacturers' free access websites as set out in the regulations. It is noted that the introduction of resource efficiency requirements represented a significant challenge for several manufacturers in terms of achieving and demonstrating compliance with these requirements. Engagement is ongoing with the manufacturer of the three remaining products relating to issues surrounding resource efficiency requirements. It is expected that the required changes to the manufacturer's website will be implemented shortly bringing the three remaining products into compliance.

Informed by the level of compliance relating to resource efficiency requirements found in this campaign, and our similar experiences with other product categories where these requirements apply, the MSA is developing guidance for economic operators.



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