

Washing



machines

**Energy efficiency and functional performance requirements: how they are verified and what consumers should care about**





*The washing machine is the second most common appliance we use at home, making our life easier and a lot more comfortable. One of the global trends for this product is the attempt to limit the energy and water consumption along with the improvement of the functional performance, in order to lower the environmental impact of the use of this precious appliance and whenever possible the running costs for consumers.*

*Learn more on about what information consumers should consider prior to purchasing a new washing machine, and what is being done to ensure the availability of such information and to verify its accuracy.*

## **ATLETE II Project – what it is about**

### **ATLETE II – Appliance Testing for Washing Machines Energy Label & Ecodesign Evaluation**



The EU Energy Labelling scheme and Ecodesign requirements are crucial drivers for market transformation towards more efficient appliances. However the success of these policy measures strongly depends on consumers being confident that the products found on the EU market comply with the legislative requirements.

The goals of the ATLETE II project are to verify the pan-EU compliance of washing

machines with Energy Labelling and Ecodesign requirements using the new and more real-life related measurement method, to improve the capacity of EU testing laboratories and at the same time support co-operation among national Authorities for effective market surveillance.

The project started in May 2012 and is due to be concluded by October 2014.

## EU Energy Labelling scheme – what tools and information does it provide?

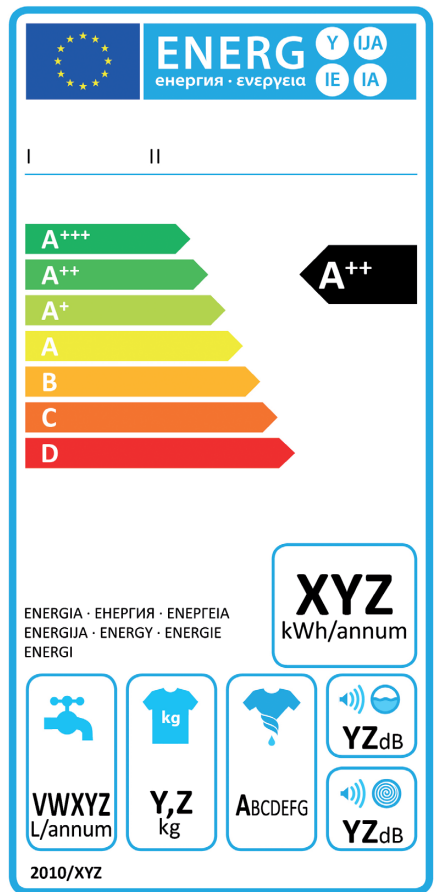
The purpose of the EU Energy Labelling scheme is to allow product comparison in a standardised and transparent way, so that consumers can choose more energy efficient and better performing models of labelled products.

Retailers have the legal responsibility to place the energy label on the top or front size of the household washing machine in such a way that it is clearly visible. The energy labels are provided free of charge by the product suppliers. The product manufacturer is responsible for the accuracy of information on the energy label and in all other product documentation.

### Energy efficiency

The Energy Label has a uniform format all across the EU. It shows 7 energy efficiency classes, ranging from A+++ (most efficient) to D (least efficient). The coloured arrows are used to differentiate more energy efficient from less energy efficient products: dark green indicates a highly efficient product and red a low efficient product. Note that A+++ class is 32% more efficient than class A and that since December 2013 new products only in class A+ or above are allowed on the EU market!

The label also highlights the energy consumption in kWh per year, which is calculated for 220 washing cycles plus the stand-by consumption.



### The water consumption

The Energy Label also shows the annual water consumption, in litres, calculated for the same 220 washing cycles.

### The functional performances

The main functions of a washing machine are washing and spinning: at the end of the washing programme dirty laundry is cleaned and the process water is removed.

**A+++ energy efficiency class is 32% more efficient, than class A.  
A+ is the lowest energy efficiency class that can be brought to the market.**

The label ranks the washing machines in a scale from A to G according to their spin drying efficiency, i. e. the capacity to remove water from the wet laundry at the end of the washing programme after the rinsing phase. It is calculated as the percentage of the residual moisture content in the laundry.

The label does not show the washing performance classification. Since 2010, only models assuring a washing performance equivalent to "class A" or better are allowed on the EU market for appliances with a load capacity greater than 3 kg.

### The pictogrammes

The pictogrammes below the coloured arrows highlight the main appliance functional performances and characteristics:

- 1 Annual water consumption in litres
- 2 Load capacity, in kilogrammes (with 0,5 steps)
- 3 Spin-drying efficiency class from A (high efficiency with a lower amount of water in the washed laundry) to G (low efficiency with a higher amount of water in the washed laundry)
- 4 Noise emissions in decibels at washing (upper icon) and rinsing (lower icon)

The annual energy & water consumption and the spin-drying efficiency class indicated on the label are derived from calculations based on a standardised average washing cycle, defined as a combination

of the cotton programmes at 60°C and 40°C at full and partial load. For the energy consumption also the standby (i.e. the left-on mode and in off-mode) modes are considered.

### Information to be made available in online and distance selling

The labelling scheme prescribes that when the appliances cannot be seen before the purchasing decision is made, for example in mail orders/catalogues as well as for online sales, the following information has to be provided to the consumer (in this specific order):

- ◆ the rated capacity in kg of cotton, for the standard 60 °C cotton programme at full load or the standard 40 °C cotton programme at full load, whichever is the lower
- ◆ the energy efficiency class
- ◆ the weighted annual energy consumption in kWh per year
- ◆ the weighted annual water consumption in litres per year
- ◆ the spin-drying efficiency class
- ◆ the maximum spin speed attained for the standard 60 °C cotton programme at full load or the standard 40 °C cotton programme at partial load, whichever is the lower
- ◆ the remaining moisture content attained for the standard 60 °C cotton programme at full load or the standard 40 °C cotton programme at partial load, whichever is the greater
- ◆ noise emissions during the washing and spinning phases, for the standard 60 °C cotton programme at full load
- ◆ the indication if the washing machine is to be built-in.



1



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## Ecodesign requirements: setting minimum requirements to determine models allowed to enter the market

### Ecodesign requirements

The purpose of the Ecodesign requirements is to define the minimum characteristics products are required to have to be placed on the EU market.

Since December 2013, all new washing machine models shall have an energy efficiency **equivalent to class A+ or better, and the water consumption of the standard 60°C cotton programme shall be lower than the allowed maximum related to the specific machine's load capacity.** Products not fulfilling these requirements can continue to be offered by retailers, provided they have been placed on the market before the mentioned deadline, but no such new models may be brought to the market, as these are now considered as not efficient enough for the current markets.

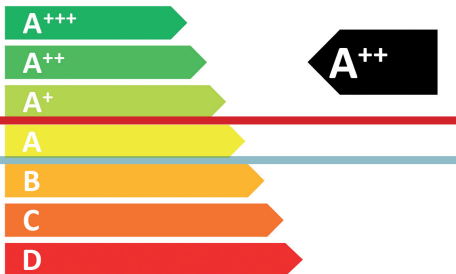
In addition, for the new washing machines:

- ◆ **the washing cycles used for the determination of the product energy efficiency class** shall be clearly identifiable on the washing machines programme selection device or the display, if any, or both, and indicated as **standard 60°C cotton programme** and **standard 40°C cotton programme**.

The programme(s) may be also indicated as:



- ◆ **washing cycle at 20°C** shall be present; this programme shall be clearly



identifiable on the washing machine's programme selection device or the display, if any, or both.

### More information in product documentation

The Ecodesign requirements prescribe also that a **further set of information** has to be made available in the booklet of instructions, allowing consumer a better understanding of the products. This set of information includes:

- ◆ the standard 60°C and 40°C cotton programmes, which shall specify that they are suitable to clean normally soiled cotton laundry and that they are the most efficient programmes in terms of combined energy and water consumptions for washing that type of cotton laundry
- ◆ an indication that the actual water temperature may differ from the declared cycle temperature
- ◆ the power consumption of the off-mode and of the left-on mode
- ◆ indicative information on the programme time, remaining moisture content, energy and water consumption for the main washing programmes at full or partial load, or both
- ◆ recommendation on the type of detergents suitable for the various washing temperatures.

## ATLETE II project test results

An effective action of market surveillance is fundamental to create a level playing field for market actors and to keep consumers confident in the Energy Labelling and Ecodesign. Market surveillance is in general performed by national Market Surveillance Authorities, appointed for this purpose by each EU Member state. Nevertheless, in recent years the European Commission has co-financed a number of projects aiming at achieving a pan-EU verification of the compliance of major household appliances.

Among those projects, ATLETE II was designed to test 50 randomly selected mo-

del of washing machines, to verify both the compliance to the Energy Labelling and the Ecodesign requirements.

These models have been selected from the full range of washing machine models available on the EU market – ranking from the main brands with the largest market share, to covering some of the numerous small manufacturers only represented on the market to a lesser degree. The project has made sure that all parameters, as described in the relevant EU legislation on Energy Labelling and Ecodesign, have been verified through laboratory tests in selected high quality EU laboratories.

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**ATLETE II Project test results point to compliance of the washing machines segment to with the EU Energy Labelling and Ecodesign requirements but the Project has also demonstrated the unique benefits of pan-EU compliance verification and the importance and impact of the European Commission’s financial support.**

The ATLETE II project has verified inter alia the degree at which the washing machines’ energy labels, available for customers at the time of purchase within the EU market, were correct and provided accurate information about the technical specificities of the appliance, including their energy efficiency and functional performance.

In summary, the results identified are:

- ◆ 100% compliance rate with the energy efficiency class and energy consumption declarations for the Energy Label;
- ◆ 100% compliance rate with energy and water consumption Ecodesign minimum requirements;
- ◆ 92% overall compliance rate for functional performance class and parameters;
- ◆ 84% overall compliance of the product fiche and Ecodesign-requested infor-

mation availability and proper format;

- ◆ 64% compliance with the requirement to indicate the standard programme on the machine;
- ◆ 38% compliance rate for the Ecodesign-requested information to be provided in the booklet of instructions;
- ◆ 30% overall compliance rate when including all individual parameters.

**Consumers can therefore be confident, all over Europe, about the technical and performance information made available when making purchases of this type of appliance. Need for further improvement will be worked on by project partners in the area of information to be provided by manufacturers.**

These are the main findings coming out of the two-year process of pan-EU compliance verification of the Energy Labelling and Ecodesign Regulations, a process undertaken on 50 randomly selected washing machines by the ATLETE II Project consortium of eleven organisations, ranking from energy agencies, manufacturer association, market surveillance authority, consumer organisation, and independent experts. All tested models were bought anonymously from retail outlets across Europe, just like a typical consumer would do.

A number of models have failed to obtain formal compliance for all criteria under the project's testing procedure: some models tested failed to comply with one of the technical parameters, others failed to comply due to the absence of mandatory information, that should be made available to consumers prior to purchase, or to provide it in a requested format. Compliance verification results were immediately communicated to market surveillance authorities where the appliances were available for purchase.

The full testing results, including test reports for individual models tested for the project can be consulted here [www.atlete.eu/2](http://www.atlete.eu/2).

*"The project demonstrated that a coordinated effort by a small and dedicated team is very effective in providing market surveillance authorities with reliable test results. The project is a good model for compliance checking in the European single market."*

PAOLO FALCIONI  
CECED DIRECTOR GENERAL AND PROJECT  
CONSORTIUM MEMBER

*"This type of pan-European tests are really interesting from a market surveillance perspective. Individual authorities can never monitor the whole EU-market in this way. We have communicated the test results from the ATLETE II project to market surveillance authorities across EU, and received good response."*

KAROLINA PETERSSON  
PROJECT MANAGER  
SWEDISH ENERGY AGENCY

### **ATLETE II project's test activities in a nutshell:**

- ◆ Specific models for testing were chosen for testing via a transparent selection process involving all known manufacturers and conducted by a notary. Appliances were selected on the basis of the company's market share and the product's availability in specific markets.
- ◆ The following parameters were tested or checked:
  - ◆ energy consumption,
  - ◆ water consumption,
  - ◆ washing performance,
  - ◆ spinning performance,
  - ◆ spin speed,
  - ◆ load capacity,
  - ◆ power consumption and duration of off-mode and left-on mode,
  - ◆ ecodesign minimum requirements,
  - ◆ product specific requirements and
  - ◆ information requirements.
- ◆ Test results were communicated to the individual company responsible for each washing machine model, to market surveillance authorities where the appliances were available for purchase, and are now becoming fully publicly available.

## Contacts

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For more information about the project and its achievements please visit:  
[www.atelete.eu/2/](http://www.atelete.eu/2/)



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