

WORKING DOCUMENT ON

Possible requirements for non-household washing machines, non-household textile dryers and non-household dishwashers

Outline of Technical update of Mandate M/495 to be addressed to CEN/CENELEC

The current status of standardisation activities for:

Non-household washer-extractors and textile dryers:

- a) Proposals for standards for "commercial" washing machines and dryers standard are nearly finished (CENELEC).
- b) Proposals for standards for tunnel washers, "industrial" washing machines (above 40 kg) and "industrial" dryers are in preparation (ETCT).

Non-household dishwashers:

- c) Proposals for standards for non-household single tank dishwashers are in preparation (CENELEC TC59x SWG2.1). The standard developed does not apply to water change dishwashers, nor to single tank dishwashers equipped with conveyor belts.
- d) Status of proposals for standards for non-household multi tank dishwashers is unclear (CENELEC).

On the basis of this document and of the input of the Ecodesign Consultation Forum, the Commission will prepare a technical update to Mandate M/495 under the Ecodesign Directive, specifying the desired content and timeframe of the work harmonising standards applicable to test procedures of non-household laundry equipment and dishwashers.

1. PARAMETERS TO BE CONSIDERED IN FUTURE TEST STANDARDS FOR NON-HOUSEHOLD WASHING MACHINES:

Related to ecodesign requirements:

- a) $EC_{WE<40}$ is the Energy Consumption of a non-household washer-extractor of max 40 kg in kWh/kg (final energy)
- b) $EC_{WE>40}$ is the Energy Consumption of a non-household washer-extractor of 40 kg or more in kWh/kg (final energy)
- c) EC_{TW} is the Energy Consumption of a non-household tunnel washer as declared by manufacturer for standard rating conditions in kWh/kg (final energy)
- d) rated capacity of the washing machine
- e) $WC_{WM,w}$ is the specific washing water consumption of the washing cycle
- f) $WC_{WM,R}$ is the specific rinsing water consumption of the rinsing cycle
- g) WC_{WM} is the specific water consumption of the complete cycle
- h) WP is the measured Washing Performance, which is the average of the reflectance values of the test strip after completion of the test cycle.

Related to standard rating conditions:

- i) Minimum washing temperature
- j) Cycle duration
- k) Capacity
- l) Load type

Related to test conditions:

- m) Ambient temperature;
- n) Water inlet temperature;
- o) Drum temperature at start of test;
- p) Rated capacity

- q) Program
- r) Productivity (kg/hr);
- s) program duration (min);
- t) Water hardness;
- u) Type and dosage of detergent;
- v) number of test runs

2. PARAMETERS TO BE DESCRIBED IN FUTURE TEST STANDARDS FOR NON-HOUSEHOLD TEXTILE DRYERS:

Related to ecodesign requirements:

- a) *EC* is the specific energy consumption for standard rating conditions (in kWh/kg, final energy)
- b) rated capacity of the drier, expressed in kg/cycle
- c) drying programme duration
- d) productivity

Related to standard rating conditions:

- e) initial moisture content
- f) maximum temperature of process air*
- g) final moisture content (related to bone dry)
- h) Load Type
- i) textile surface temperature) controlled

Related to test conditions:

- j) Ambient temperature;
- k) Air humidity;
- l) Filling mode;
- m) Machine temperature at start of test;
- n) Selection of program;
- o) Rated capacity;
- p) Productivity (kg/hr);
- q) Program duration / cycle time;
- r) Load (material, types, etc.).
- s) number of test runs required

3. PARAMETERS TO BE DESCRIBED IN FUTURE TEST STANDARDS FOR NON-HOUSEHOLD DISHWASHERS:

Related to ecodesign requirements:

- a) EC_{WCWW} is the energy consumption for standard rating conditions in kWh/100 dishes (final energy)

- b) EC_{STWW} is the Energy Consumption for standard rating conditions in kWh/100 dishes (final energy)
- c) EC_{MTWW} is the Energy Consumption for standard rating conditions in kWh/100 dishes (final energy)
- d) c is the rated capacity of the dishwasher
- e) W_{WW} = the water consumption of the dishwasher equal to washing 100 dishes
- f) CP_{WW} = Cleaning Performance of a non-household dishwasher for standard rating conditions, in %

Related to standard rating conditions:

- g) Cleaning temperature
- h) Cleaning cycle duration
- i) Last fresh water rinse temperature

Related to test conditions:

- j) Ambient temperature;
- k) Air humidity;
- l) Water inlet temperature and hardness;
- m) Filling mode;
- n) Machine temperature at start of test;
- o) Selection of program;
- p) Rated capacity;
- q) Productivity (kg/hr);
- r) Program duration / cycle time;
- s) Type and dosage of detergent;
- t) Load (material, types, etc.).
- u) Productivity: for water change, and single tank and multi tank dishwashers, with or without conveyor belts
- v) Number of test runs required for establishing values