

Guidelines for Front Runner Public Procurers

Washing Machines

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Why follow Topten criteria?

- Topten.eco.br (www.topten.eco.br) is a Brazilian web portal helping buyers, professionals, public procurers and large buyers to find **the most energy efficient products available in Brazil**. The products are selected and updated continuously, according to their high energy and environmental performances, independently from the manufacturers.
- All washing machines displayed on www.topten.eco.br meet the criteria contained in these guidelines. Procurers can therefore use the website to check the availability and assortment of products currently on the market, which meet the [Topten selection criteria](#).

How much can you save?

Considering washing machines listed on www.topten.eco.br and the following assumptions, it is possible to achieve the savings indicated in the next table.

- Assumptions
- Lifetime expectation: 10 years
 - Yearly use: 220 washing cycles per year
 - Electricity cost: R\$ 0.59 /kWh
 - Water and sewage cost: R\$ 15.64 /m³

	Topten model	Inefficient model
Washing capacity	12 kg	12 kg
Energy class	A	B
Electricity consumption	79 kWh/year	81.5 kWh/year
Water consumption	24.2 m ³ /year	33 m ³ /year
Use cost (electricity and water in 10 years)	R\$ 4251	R\$ 5642
Savings in 10 years	0.2% energy/unit - 26% water/unit ⇒ R\$ 1391 / unit	

As the example shows, total savings can reach a 24.7% reduction, and they should be multiplied by the number of units included in the tender.

It is worth mentioning that washing machines vary greatly in regards to their washing capacities, water and energy consumption. The analysis mentioned above is a comparison between models of high and low efficiency with the volume of the most popular models in Brazil. Washing machines with higher volumes are likely to consume more energy, thus a similar percentual reduction in energy consumption equals a greater absolute cost reduction. Models with hot water and/or drying features are also more likely to present a greater potential for cost reduction and energy/water savings.

Procurement criteria

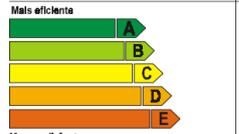
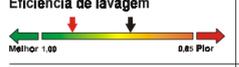
The following criteria can be inserted directly into tendering documents. The Topten selection criteria and the product lists are updated regularly. The newest versions are always available at www.topten.eco.br.

SUBJECT: HIGHLY ENERGY-EFFICIENT REFRIGERATORS

TECHNICAL SPECIFICATIONS

1. Energy label

Energy labels for washing machines are also regulated by INMETRO Ordinance nº 20/2006. The regulation defines an energy label scale from A to E, being A the most efficient and E the least efficient category. Washing machine classification on the ENCE scale is based on their efficiency indexes, expressed in energy consumption per cycle per kilogram and it's split between cold wash, hot wash and centrifugation efficiency, as show on the tables below:

Energia (Elétrica)	
Fabricante	LAVADORA AUTOMÁTICA
Marca	ABCDEF XYZ(Logo)
Modelo/tensão (V)	IPQR/220
Mais eficiente	
	C
Menos eficiente	
CONSUMO DE ENERGIA (kWh/ciclo) (Programa de lavagem normal - água fria) (Programa de lavagem normal - água quente)	0,27 2,16
Eficiência de lavagem 	0,75 0,95 água fria água quente
Eficiência de centrifugação A: melhor E: pior	A B C D E
Capacidade de lavagem (kg)	8,0
Consumo de água (L/ciclo)	150,5
<small>Regulamento Técnico de Produção nº 20/2006 da Comissão de Defesa do Consumidor do Brasil - INMETRO</small> <small>Instruções de instalação e orientações de uso: Leia o Manual do usuário</small>  	

INMETRO ORDINANCE Nº 185/2005	
Energy efficiency class	Centrifugation Efficiency (%)
A	60
B	68
C	76
D	84
E	94

INMETRO ORDINANCE Nº 185/2005			
ENERGY EFFICIENCY CLASS	COLD WASH - AUTOMATIC (KWH/CYCLE/KG)	COLD WASH – SEMI-AUTOMATIC (KWH/CYCLE/KG)	HOT WASH (KWH/CYCLE/KG)
A	0.031	0.019	0.19

B	0.035	0.022	0.23
C	0.039	0.025	0.27
D	0.043	0.028	0.31
E	0.047	0.031	0.35

PROCEL Label

The PROCEL (National Electrical Energy Conservation Program) recognises products that have a higher energy efficiency amongst their competitors. It guarantees lower energy consumption during use and minimum energy efficiency class A.

According to the official PROCEL guideline, washing machines must meet a set of minimum requirements in order to be given the PROCEL label. For automatic and semi-automatic, the requirements are:

CATEGORY	ELECTRICAL ENERGY CONSUMPTION	WASHING EFFICIENCY	WATER CONSUMPTION (LITRES/CYCLE/KG)	CENTRIFUGATION EFFICIENCY
Automatic	Minimum ENCE classification "A"	≥ 0.88	≤ 15.1	Minimum ENCE classification "A"
Semi-automatic	Minimum ENCE classification "A"	≥ 0.72	≤ 27.4	Does not apply

Advice and support

If you would like further assistance in using the information presented here in your own procurement actions or more information on Topten.eco.br please contact your national Topten team (find the links on Topten.eco.br).

The PROCEL and INMETRO websites also contain valuable legal and practical guidance together with procurement criteria for a range of commonly procured products and services.



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