

TGL-2-R2-02

Fluorescent Lamps

Rationale

From the study of fluorescent lamps' life-cycle analysis, it was found that about ninety percent of environmental impacts occurred from energy consumption during usage stage. The rest impact occurs during raw material preparation in the production process such as emission from mercury vapor and as end used products which disposed and became hazardous wastes contaminated in household garbage.

Due to natural resources consumption, such as petroleum and coal, electricity generating affected significantly to environment in various ways which are air pollution from sulfur dioxide, global warming and acid rain, deforestation, soil surface destruction and a social impact from migration.

Therefor, developing of fluorescent lamps' Green Label criteria shall consider by means of energy efficiency, long service life time , and reduction of mercury used in product in order to save the energy from electricity and reduce pollution from mercury.

Category Definition

This category includes fluorescent lamps and compact fluorescent lamps.

Green Label Requirements

To be authorized to carry the Green Label, a product must meet both the general requirements and the specific requirements listed below:

A. General Requirements

The products must:

1. be certified to the Thai Industrial Standard TISI 236, *Standard for Fluorescent Lamps*, or International Standard or acceptable National Standard or if not certified the product must have passed the standardized tests of product quality.
2. Be manufactured, transported and disposed in a manner which meets requirements of all applicable governmental acts and regulations such as Factory Acts 1992.

In the event of any conflict arising, the original criteria in Thai is to be final authority.

B. Product Specific Requirements

1. The luminous efficacy of the products, when tested against the TISI test method TISI 236, *Standard for Fluorescent Lamps*, must be as follows:

Types of Lamps	Energy Efficacy (watt)	Luminous Efficacy (lumens/watt)	
		Halophosphor	Triphosphor
Fluorescent Lamps • Day-Light	≤ 18	> 50	> 72
	> 18	> 60	> 90
• Warm white/ Cool white	≤ 18	> 60	> 75
	> 18	> 65	> 93
Compact fluorescent lamps • Internal Ballasts	< 10	> 45 (50)*	
	10-15	> 50 (55)*	
	> 15	> 55 (60)*	
• External Ballasts	< 7	> 40	
	7-9	> 50	
	> 9-13	> 55	
	> 13-18	> 60	
	> 18	> 62	

Remark : * Luminous Efficacy values outside () are for Day-Light fluorescent lamps , the values inside () are for Warm white / Cool white fluorescent lamps.

2. The product must have guaranteed service life of at least 10,000 lighting hours.
3. For internal ballast compact fluorescent lamps, the power factor must not lower than 0.55
4. The mercury content of the product shall not exceed than 10 milligram per lamp.
5. The product packaging must be made of 100% recycled paper or corrugated carton which produced from 100 % recycled pulp.
6. Foaming materials, laminates or plastic contained raw material must not be used in packaging.

In the event of any conflict arising, the original criteria in Thai is to be final authority.

7. The following information shall be stated in manual accompany with the product on packaging ;
 - 7.1 Warning and/or proper instruction to use accompany with another equipments such as Dimmer switches.
 - 7.2 Appropriate procedures or conditions for storage of end used product and packaging by means of simplified message or figure.
 - 7.3 The name and address of the label user shall be clearly stated on product or packaging. In case of the label user is not a manufacturer, the name and address of the manufacturer shall be stated instead as well.
8. Take back and recycling policy shall be provided in environmentally sound manner and in practical way. It shall be clearly stated time frame to achieve the task since the product has been certified.

In the event of any conflict arising, the original criteria in Thai is to be final authority.