

TGL-15-98

Energy Efficient Motors

Main environmental impacts of motor result from the pollutants generated during its production and a high electricity consumption due to low efficiency motors. The higher electricity consumption indirectly result in environmental impacts during electricity generation, which not only uses a plenty of natural resources, but also result in serious impacts such as air pollutants, particulate, ash, wastewater and heavy metals.

Green Label Motor must be an energy efficient motor, should not use the paint with heavy metal residues, and should preferably use the recycled materials.

Category Definition

This category includes only three-phase induction motors which have a rated output and a voltage not exceeding 375 kW or 500 horse power and 1,000 volts, respectively.

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 product must:

1. be certified to the Thai Industrial Standard TISI 867: Standard for Three-phase Induction Motors, or other acceptable standards such as IEC, NEMA, JIS. If not certified, the product must pass the above standardized tests of product quality; and
2. be manufactured, transported and disposed in a manner meeting the requirements of all applicable governmental acts and regulations.

B. Product Specific Requirements

1. The product must not have an efficiency lower than the limiting values in table 1.
2. The product should preferably make use of recycled materials as much as possible.
3. Paint used must not contain heavy metals such as mercury or component of mercury, lead, cadmium or chromium or oxide of lead, cadmium or chromium.

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

Table 1. The Efficiency of Motor

Size		2 poles	4 poles	6 poles	8 poles
(hp)	(kW)	(~3,000 rpm)	(~1,500 rpm)	(~1,000 rpm)	(~750 rpm)
1.0	0.75	75.5	82.5	80.0	74.0
1.5	1.1	82.5	84.0	85.5	77.0
2.0	1.5	84.0	84.0	86.5	82.5
3.0	2.2	85.5	87.5	87.5	84.0
5.0	3.7-4.0	87.5	87.5	87.5	85.5
7.5	5.5	88.5	89.5	89.5	85.5
10.0	7.5	89.5	89.5	89.5	88.5
15.0	11.0	90.2	91.0	90.2	88.5
20.0	15.0	90.2	91.0	90.2	89.5
25.0	18.5	91.0	92.4	91.7	89.5
30.0	22.0	91.0	92.4	91.7	91.0
40.0	30.0	91.7	93.0	93.0	91.0
50.0	37.0	92.4	93.0	93.0	91.7
60.0	45.0	93.0	93.6	93.6	91.7
75.0	55.0	93.0	94.1	93.6	93.0
100.0	75.0	93.6	94.5	94.1	93.0
125.0	90.0	94.5	94.5	94.1	93.6
150.0	110.0	94.5	95.0	95.0	93.6
200.0	150.0-160.0	95.0	95.0	95.0	94.1
250.0	185.0-200.0	95.4	95.0	95.0	94.5
300.0	220.0-250.0	95.4	95.4	95.4	95.4
400.0	300.0-315.0	95.4	95.4	95.4	95.4
500.0	355.0-400.0	95.4	95.8	95.4	94.5

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