KES

Coating for Stabilization of Friction Coefficient (Torquer Treatment)

KES C-F010

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1. Scope of Application

This standard specifies films and treatment agents to be applied to threaded fasteners (bolts, nuts, washers, piping fittings, etc.) for automobiles (hereinafter reffered to as film and treatment agent).

Remark: There are "Torquer C-H-G" and "Torquer CA-H" made from resin which have been developed by Meido Iron Works Co., Ltd. and Nippon Resin Co., Ltd. together as films and treatment agents being equivalent to those specified in this standard.

2. Kinds and Symbols

The kinds and symbols of the films shall conform to Table 1.

Table 1

Kind	Symbol	Identification Color	Remarks
Class 1	SFC1 *	Greenish yellow	Torquer CA-H-G
Class 2	SFC2	Without (Colorless and transparent)	Torquer CA-H

* If there are no problems from the viewpoint of design, use SFC1 as far as possible.

3. Evaluation Standard

3.1 Films: The evaluation standard for the films made up by treatment agents shall conform to Table 2.

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Table 2

Evaluation Item		Evaluation Standard	Evaluation Method
External Appearance	Class 1	No peeling, nor durt shall be in the film, and the color of the film shall be greenish yellow. *1	Visual check
	Class 2	No peeling, nor durt shall be in the film	
Coverage (mg/dm^2)		15 - 50 *2 (The reference value of filmthickness: About 2μm)	4.1
Stability against water and oil/fat		There shall be no dissolut-ions nor peelings	Visual check after soaking for 30 minutes at the normal temperature *3
Influence on surface treatment		Corrosion resistance shall not be reduced. *4	Item 4.33 of JIS K 2246 (The test shall be carried out by applying this film on an article of which surface has been treated.)
Torque coefficient Friction coefficient		Report *5	4.2

*1 In case of greenish yellow, a color shading in a discriminable level may be accepted.

*2 The thickness of film shall be uniform and have no deposit.

*3 For oil and fat, the following produts shall be used. Grease shall be applied on the surface of the test sample.

(a) KIA Motor Oil Gold 10W40, Part No. 0243 77 064G.

(b) KIA Auto Glister Grease, Part No. 0600 45 660E.

*4 In case of a galvanized article treated with chromate, the treatment agent shall not be dried at a temperature of 70°C or more.

*5 The vendor shall submit the data of the torque coefficient and the friction coefficient, if required by KIA, after consultation with the department requesting the requirement.

3.2 Treatment agents: The treatment agent is an aqueous solution which consists of water-soluble alkyd resin (20%), surfactant (3%), anticorrosive (1%) and greenish yellow color pigment (1%), and its evaluation standard shall conform to Table 3. But the color pigment shall not be added to Class 2 SFC2.

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