

Clutch Full-Size Test

KES

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Contents

1. Scope of Application
2. Purpose
3. Test Preparation
4. Evaluation Item
5. Test Condition
6. Test Method
7. Evaluation Standard

Appendix

1. Scope of Application

This shall regulate about the dry-corrosion single plate clutch disc (2.5t or less).

2. Purpose

This shall be the purpose of evaluating the facing performance like clutch disc friction performance, torque performance and anti-abrasion etc.

3. Test Preparation

3.1 Device and jig preparation

- (1) Attach appropriate specimens (Clutch cover, clutch disc, fly-wheel, release brg, fork etc) for car types on the 1st and 2nd parts of the tester.

Remark 1. 1st : test instruments

2nd : specimens

- (2) Fix the thermocouple on the back of fly-wheel of 2nd part by hole working or thread working. (The test place shall confirm to the fiction surface.)

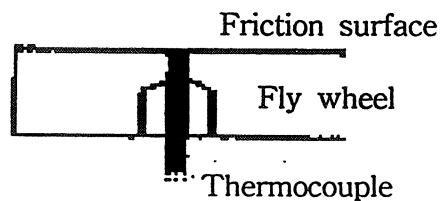


Figure 1

3.2 Specimen preparation

- (1) Use new specimens (Clutch cover, clutch disc and fly-wheel) each test.
- (2) Measure the thickness of disc facing before the test to keep.

Remark 2. Measure it with the vernier.

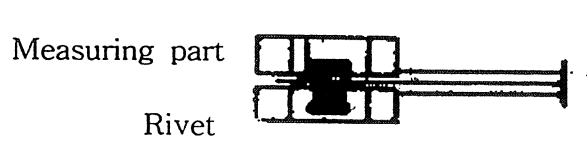


Figure 2

4. Evaluation Item

- (1) Mean torque and friction coefficient when stability
- (2) Torque and friction coefficient when the minimum
- (3) Torque and friction coefficient when initial one cycle
- (4) Torque and friction coefficient when cold-working
- (5) Anti-abrasion of facing

5. Test Condition

- (1) Load inertia and rpm

Use 2nd gear of each car type. (Refer to JASO C105-74)

$$\text{That is : } I_1 = \frac{W}{g} \times \frac{RT^2}{i_2^2 \times if^2}$$

I_1 : 2nd inertia (kgf · m · sec²)

W : Total weight of motor vehicle (kgf)

RT : Effective radius of tire (m)

i_2 : 2nd gear ratio

if : Final gear ratio

g : Acceleration of gravity (m/sec²)

$$I_2 = I_1 \times \frac{n_1^2}{n_2^2}$$

I_1 : Test inertia (kgf · m · sec²)

n_1 : 1500 rpm

n_2 : Test rpm

Remark 3. Inertia of motor vehicles is different from test inertia, therefore keep absorption energy constantly, and then calculate rpm.

- (2) Absorption energy

This shall be determined by load inertia and rpm.