

# **HYPET** *CarbonSeries*



**EXEDY**  
RACING CLUTCH

# Advantage of Carbon Disc

- **Lightweight** ⇒ Improved shift response. (Low inertia)
- **Strong Heat Resistance**  
⇒ No disengagement problem's caused by Disc deformation.
- **Long Life** ⇒ Low friction material wear rate.
- **Easy Operation** ⇒ Exedy's clutch is easy to use in the "Half Engaged" zone offering a comfortable operation either at the circuit or on the street.

# EXEDY Hyper Carbon Utilizes

- **Ultra Lightweight Carbon clutch system.**



Lightened clutch cover, Intermediate/Pressure Plate and Flywheel, contribute to an improvement in engine response.

- **Small size 8”(200mm) clutch is achieved due to high  $\mu$  friction material.**



Small disc size achieves a reduction in disc inertia resulting in improved shift response.

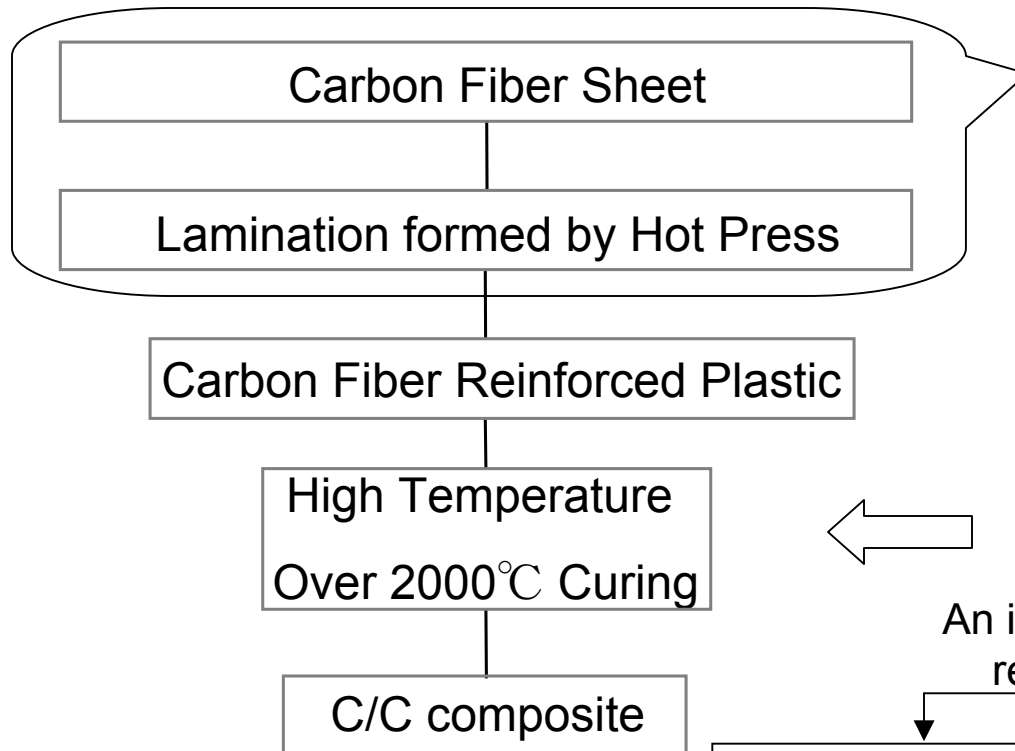
- **The Carbon Series range is manufactured to directly replace the Genuine clutch.**



Exedy Original Pull Type patented design eliminates the need for release mechanism conversion kits. This design is utilized by the following vehicle manufacturers Mazda RX7, Mitsubishi Evo Lancer, Nissan GTR and Subaru WRX.

# Carbon Facing Manufacturing Method

The Carbon material elected for use in Exedy's clutch facing is referred to as Carbon and Carbon Composite (C/C), which is a Reinforced Complex Compound.

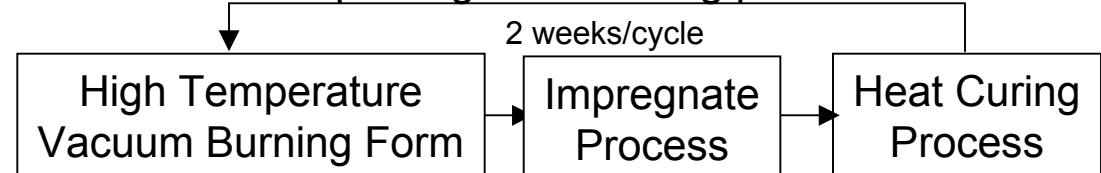


There are two types of Carbon Facing, Cross Lamination and Random Bonding Type.

Cross Lamination Type has longer fiber's and stronger Rotational Strength.

This process relates to Exedy Know-How and requires substantial time.

An increase in density is achieved by repeating the following process.



# **HYPER CARBON FEATURE 1**

## **Material Comparison**

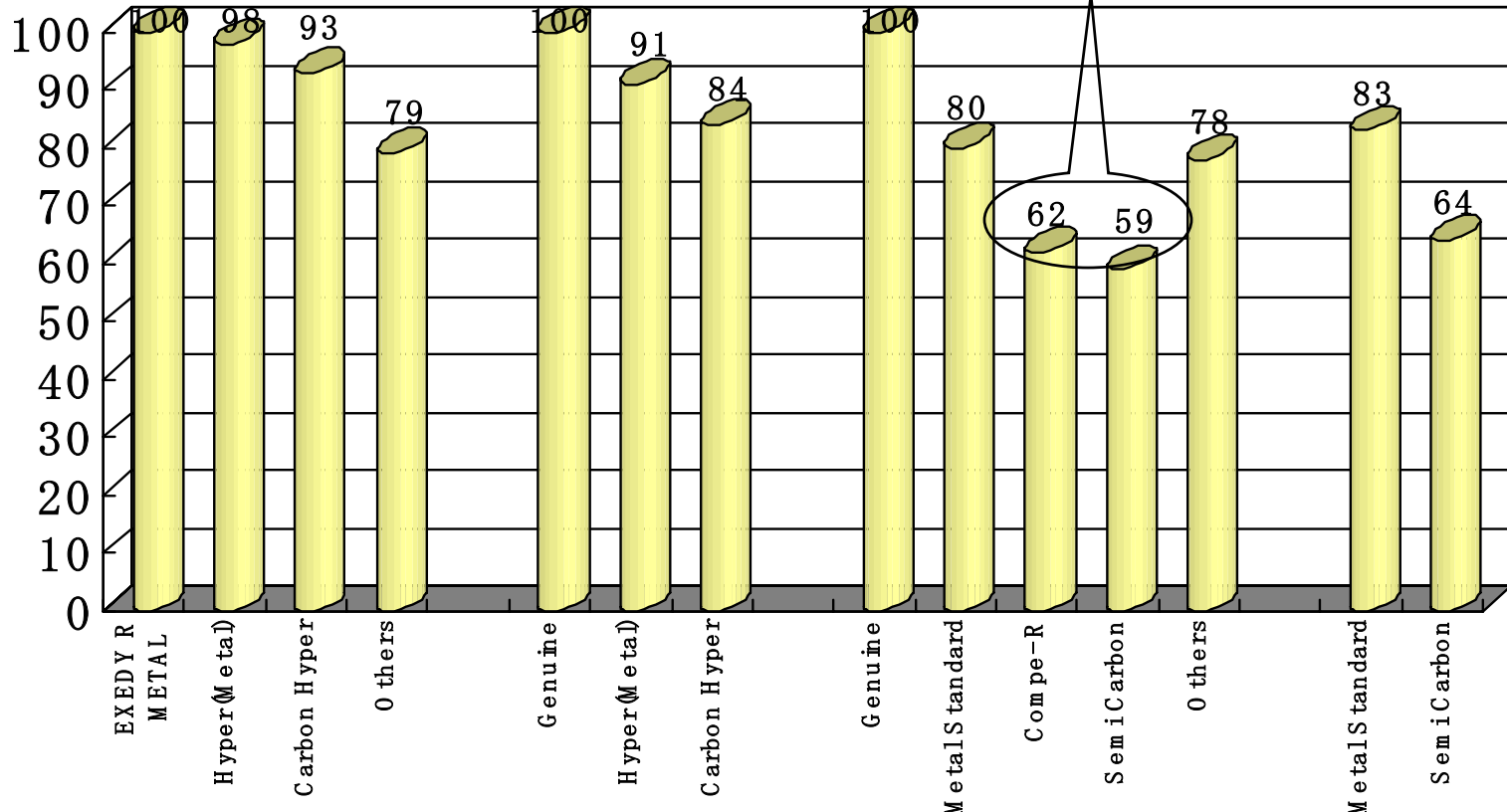
	Specific Gravity ( g / c m <sup>3</sup> )	Thermal Expansion Co efficiency x 10 <sup>-6</sup> /K
<b>EXEDY Hyper Carbon</b>	<b>1.5</b>	<b>0.63</b>
EXEDY Metal T5001	4.4	14
Others (Catalogue Data)	1.7	1.0

**In comparison to Metal material, Specific Gravity of Exedy Carbon is 1/3 & Thermal Expansion Rate is 1/22, offering an improvement in shift feeling due to minimal heat deformation. When evaluated against the competition, Exedy Carbon Material is superior in S.G & T.E specifications.**

# HYPER CARBON FEATURE 2

## Lightweight Design

Hyper Carbon material offers a slight reduction in total weight, matching Intermediate/Pressure Plates and Flywheel are lightened.



8" Single  
Honda Civic  
EK9

9" Single  
Mitsubishi Lancer CT9A

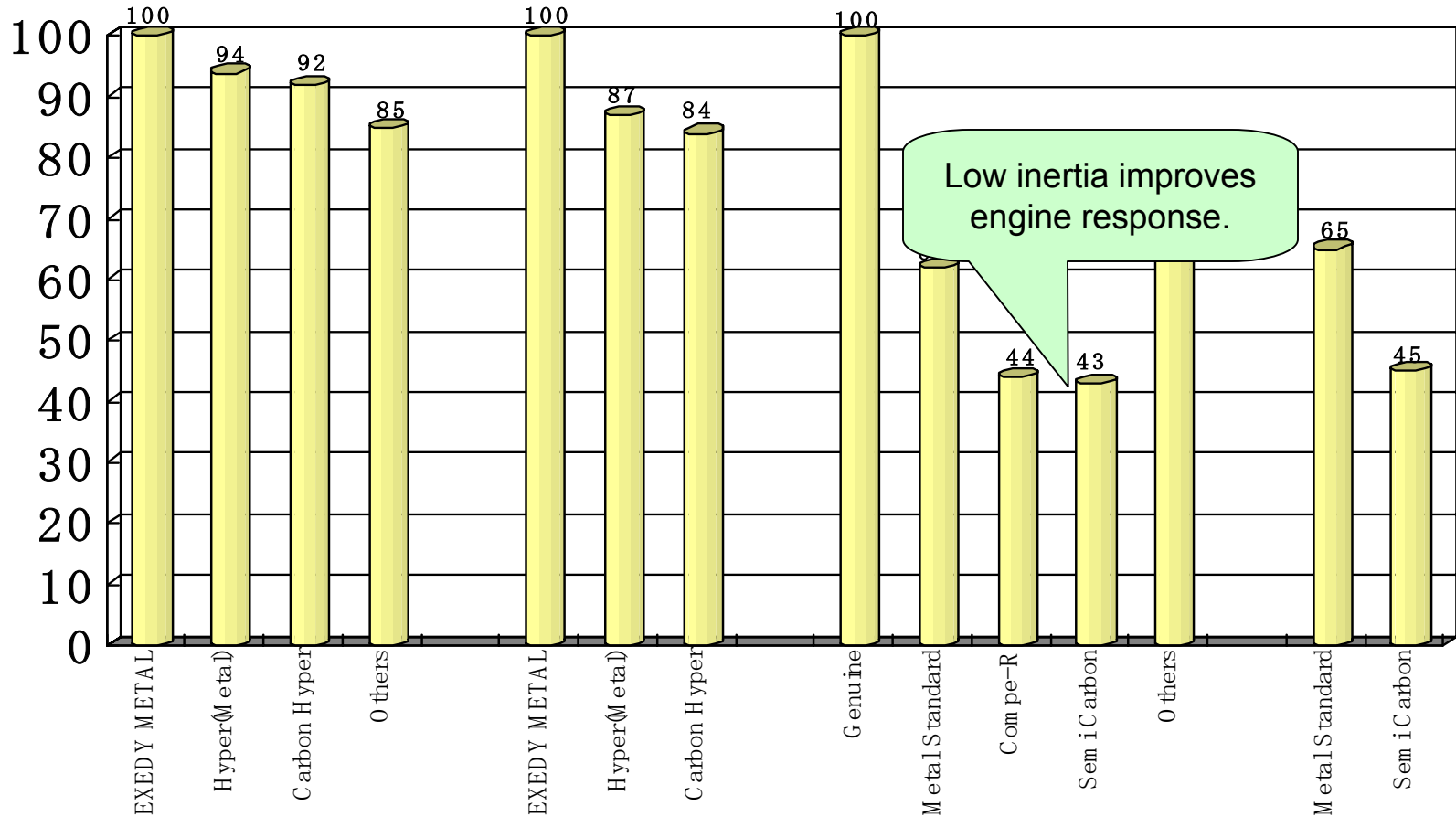
Twin Plate  
Nissan Skyline BNR32

Triple Plate  
Nissan Skyline  
BNR32

★ For Honda Civic a figure of 80 or below is deemed too light for street use.

# HYPER CARBON FEATURE 3-A

## Low Inertia Design (Complete Kit Inertia)



8" Single  
Honda Civic  
EK9

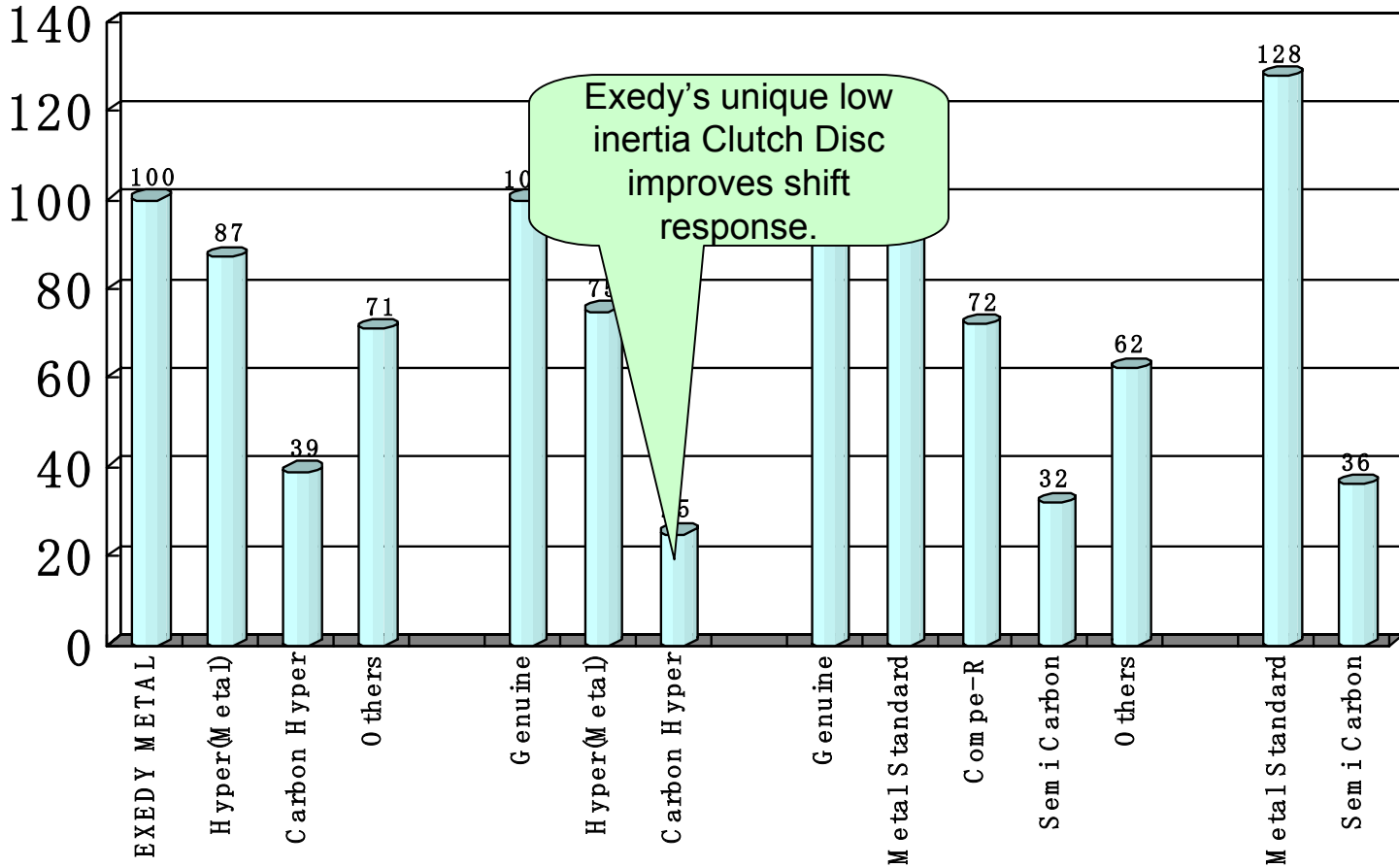
9" Single  
Mitsubishi Lancer CT9A

Twin Plate  
Nissan Skyline BNR32

Triple Plate  
Nissan Skyline  
BNR32

# HYPER CARBON FEATURE 3-B

## Low Inertia Design (Disc Inertia)



8" Single  
Honda Civic  
EK9

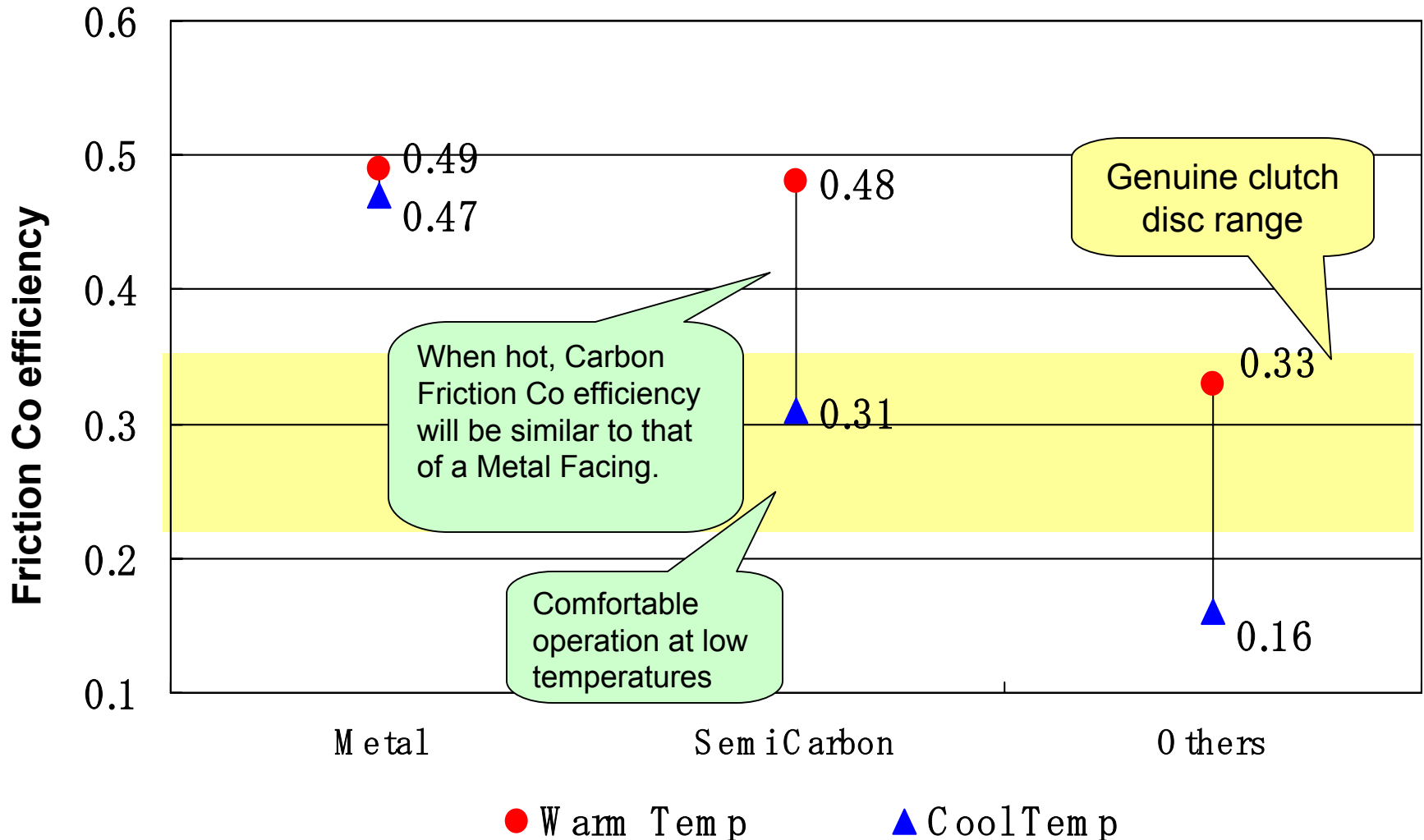
9" Single  
Mitsubishi Lancer  
CT9A

Twin Plate  
Nissan Skyline BNR32

Triple Plate  
Nissan Skyline  
BNR32

# HYPER CARBON FEATURE 4

## Superb Friction Characteristics

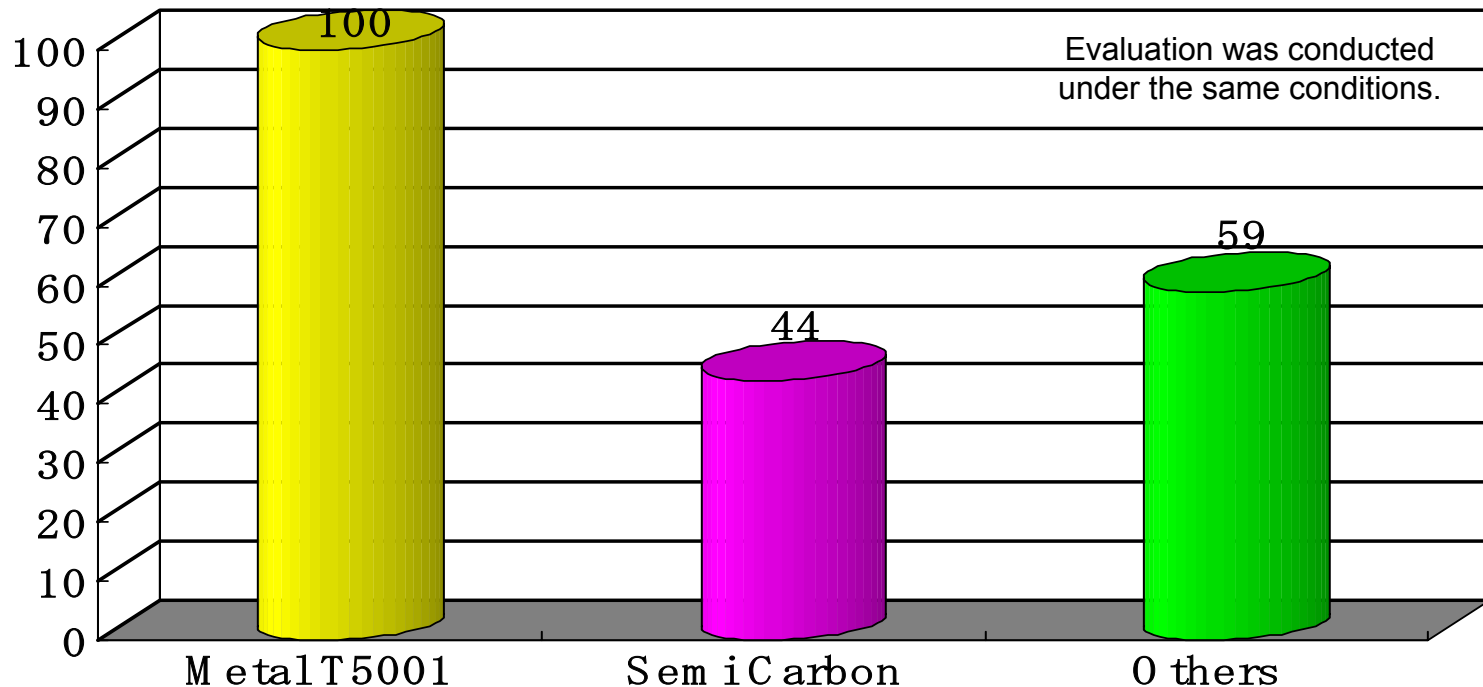


# HYPER CARBON FEATURE 5

## LONG LIFE DESIGN

Exedy Semi Carbon possesses a life span greater than 2.3 times the average of a Metal facing and 1.3 times longer life when compared to other carbon clutch manufacturers.

### Full Size Test



# HYPER CARBON FEATURE 6

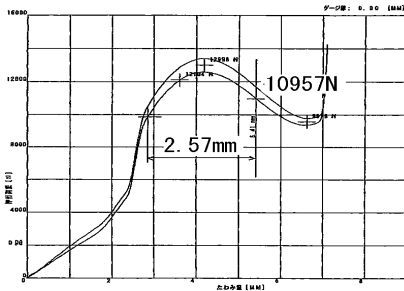
## Long Life Design

### Long life, High efficiency Diaphragm Spring.

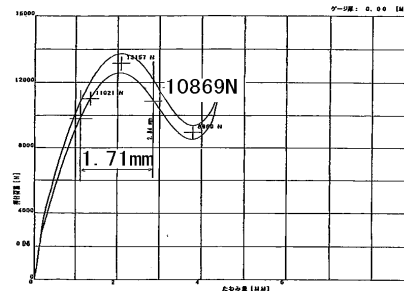
Original Diaphragm Spring, designed and manufactures by Exedy, incorporating a long history of experience gained in the clutch field.

Wear Amount B shows 2.4 times longer life than others C.

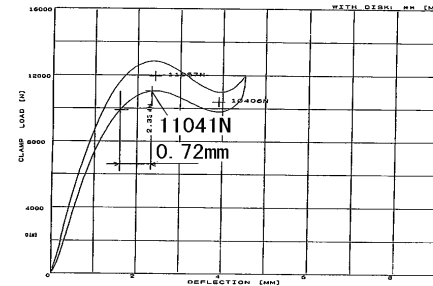
Clamp Characteristic chart A



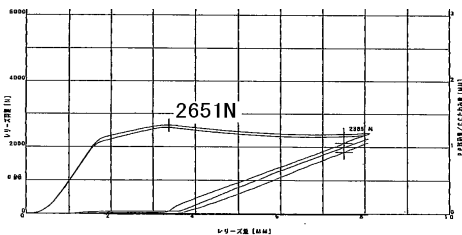
Clamp Characteristic chart B



Clamp Characteristic chart C

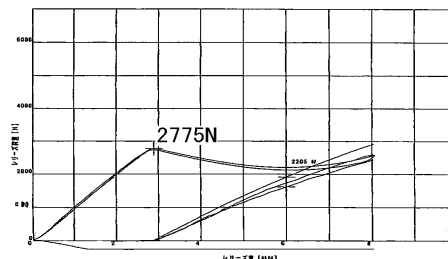


Release Characteristic chart(Pull)  
D



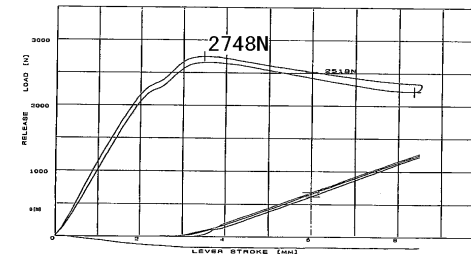
EXEDY PULL

Release Characteristic chart E



EXEDY PUSH

Release Characteristic chart F



OTHERS