NewTek
AUTOMOTIVE USA
CYFC GROUP

February 1, 2020

NEWTEK AUTOMOTIVE USA/CYFC Group

Newtek Automotive USA is pleased to announce the takeover of China Yantai Friction Co of Penglai, Shandong Province, China effective February 1, 2020.

CYFC is one of the foremost pad production facilities in the world. This facility is set up as an OE production facility. They have the OE friction supplier codes for BMW 3 Series and GWM front/ rear Suv's (GWM 17.2B Auto Mfg) as well as DELPHI EUROPEAN GROUP. （CYFC cooperated with SAXID Germany which has the supplier codes to BMW 1 series, 3 Series, X1, X3 and Porsche Cayan. CYFC is the supplier to CHANGAN, GW, CHERY, GEELY and ZOETY Etc.）

Factory layout is in 7 buildings totaling 1.01million square feet on 2.56 million square feet of land.

CYFC has one of the best engineering technology and testing equipment facilities in the world. This facility includes 1 Link 3802 Road test data collector, 1 Link chase tester, 1 link Shear Machine and 2 Link 3000 dyno's and a Link 3900 NVH dyno.

CYFC is known worldwide to have a superior formulation assortment in their library as well as the capacity to generate new formulas for OE and Aftermarket based on customer needs.

The takeover of CYFC which will be the CYFC Group of Newtek Automotive USA will position the company as one of the few suppliers in the world to control their own production, supply and quality for both OE and Aftermarket.

Inquiry's should be forwarded to marketing@newtekautomotiveusa.com

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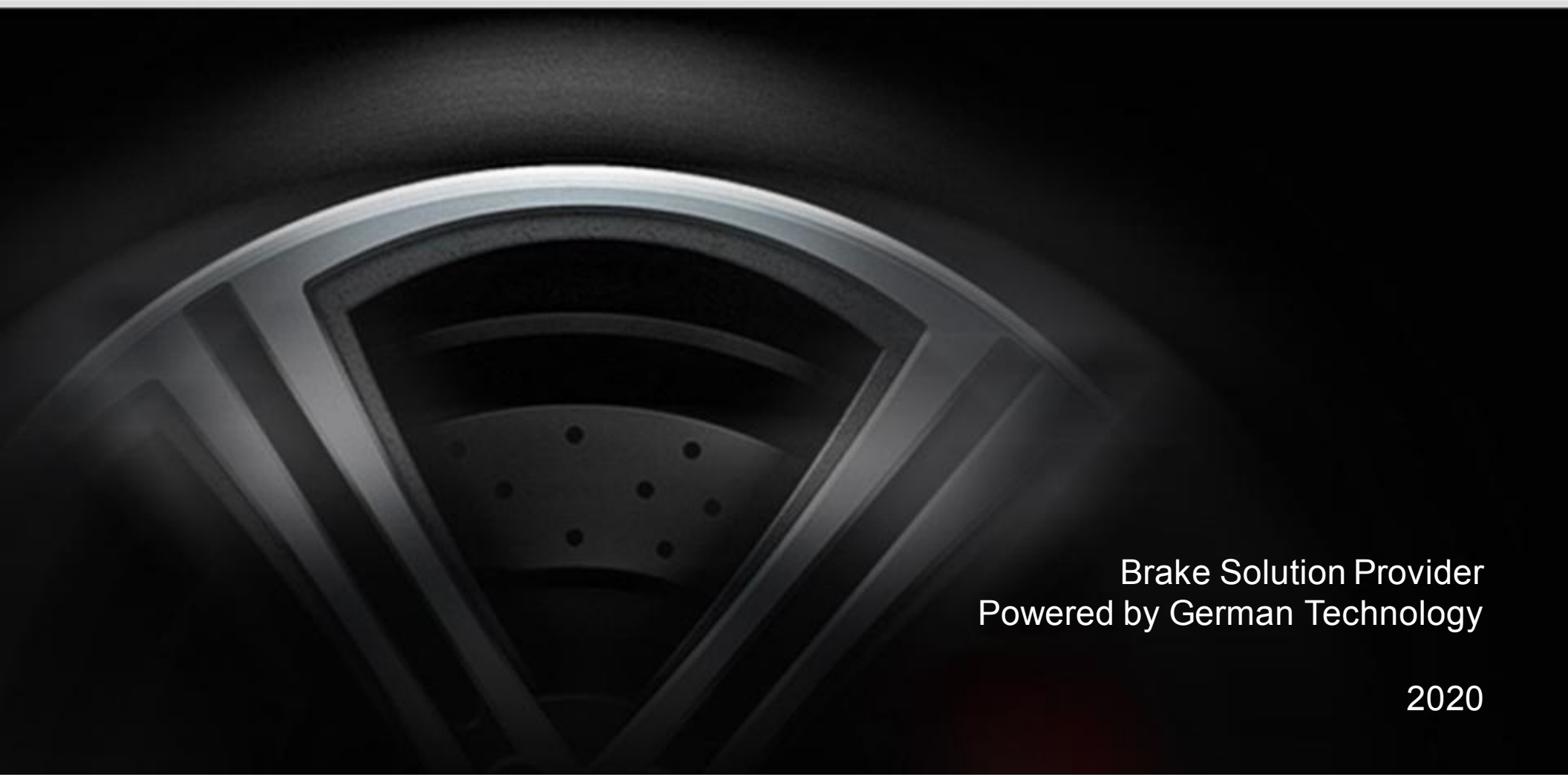

Brake Solution Provider
Powered by German Technology

2020

Company Location

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Actual View

Factory Layout

Production- Process Flow

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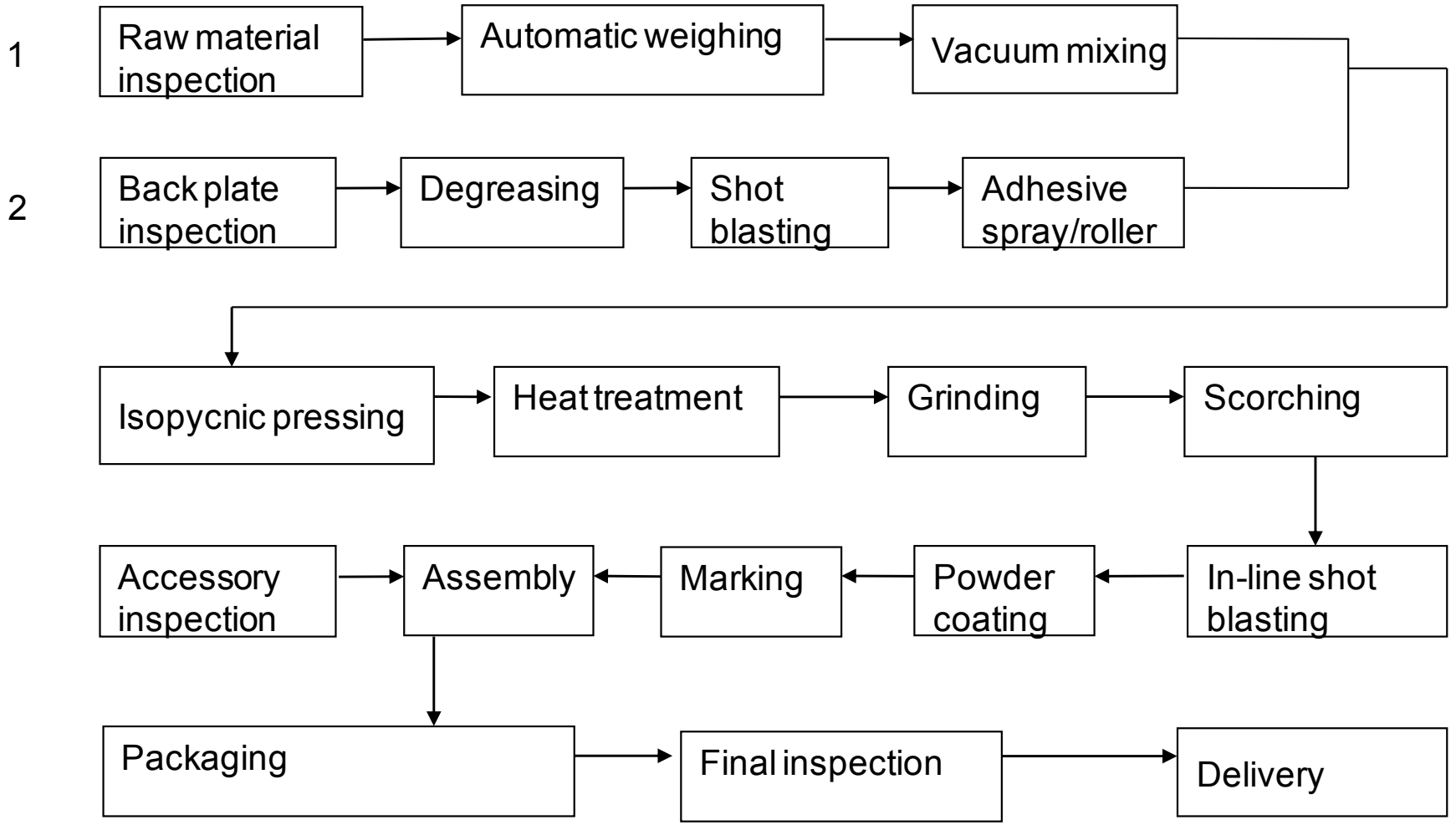

Production-Key Equipment

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Mixing

Production-Key Equipment

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Press

Grinding

Production-Key Equipment

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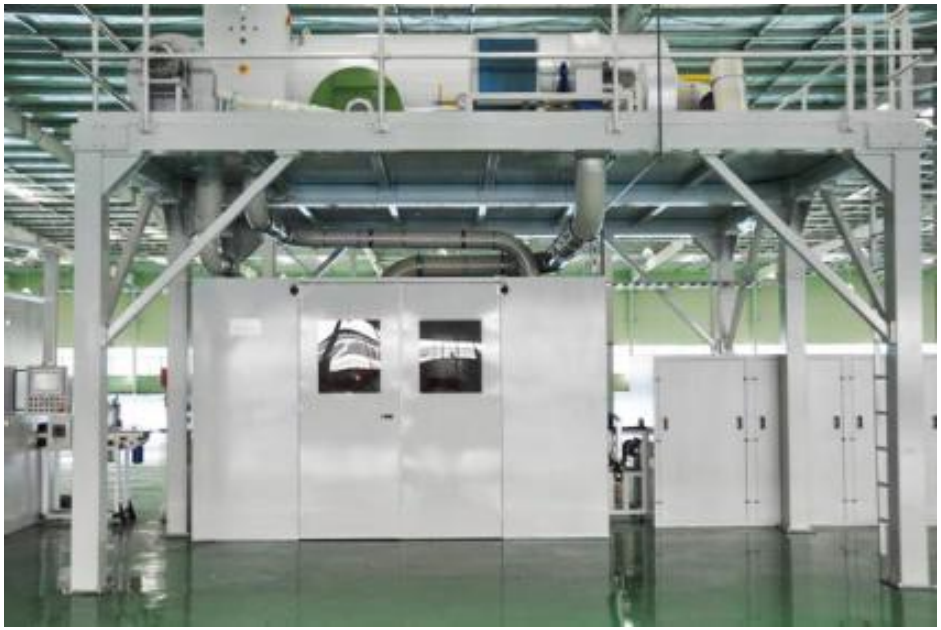

Scorching

Assembly

Quality Control- Raw Material

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Quality Control- Raw Material

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- Raw material warehouse:
  Control the temperature and humidity

- Vacuum mixing:
  Automated batching and weighing system
  Barcode control

- Mixture inspection:
  Appearance, moisture, bulk volume, ash.

- Mixture storage:
  Constant temperature and humidity

Engineering Technology-
Tooling Capability Software

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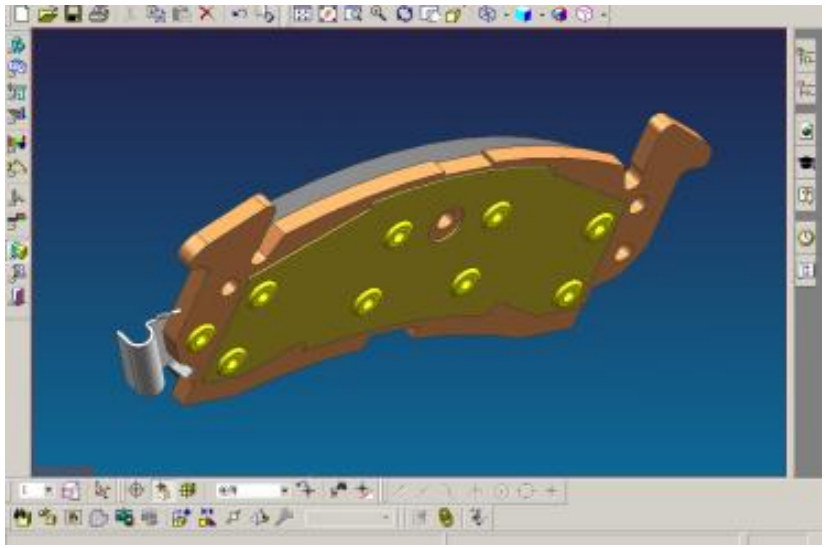
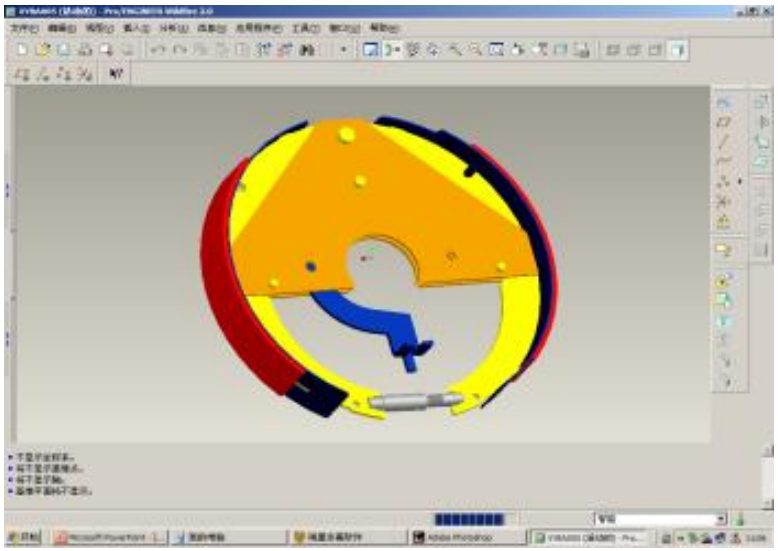
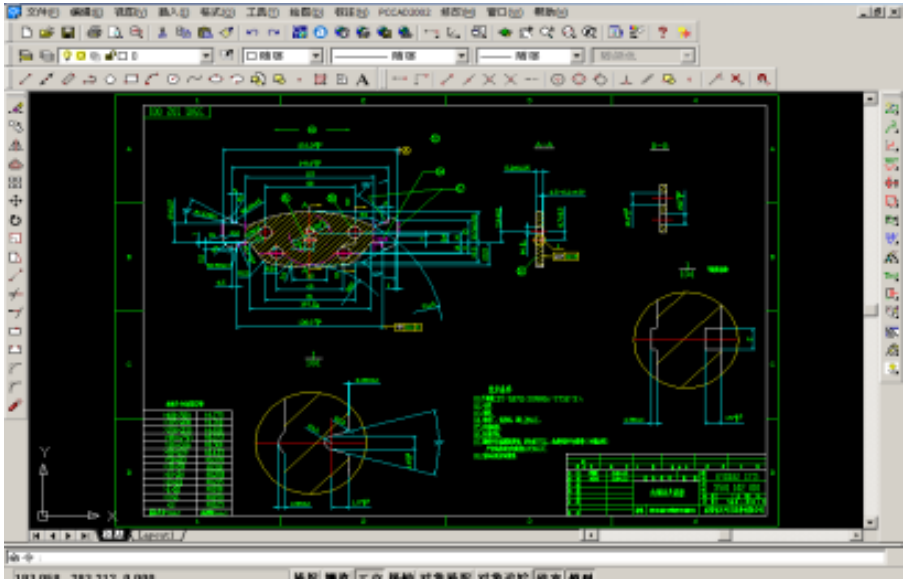


UG



Pro-E-Wildfire

AUTOCAD-2010



3-Coordinate Measuring Machine

Engineering Technology-Prototype Workshop

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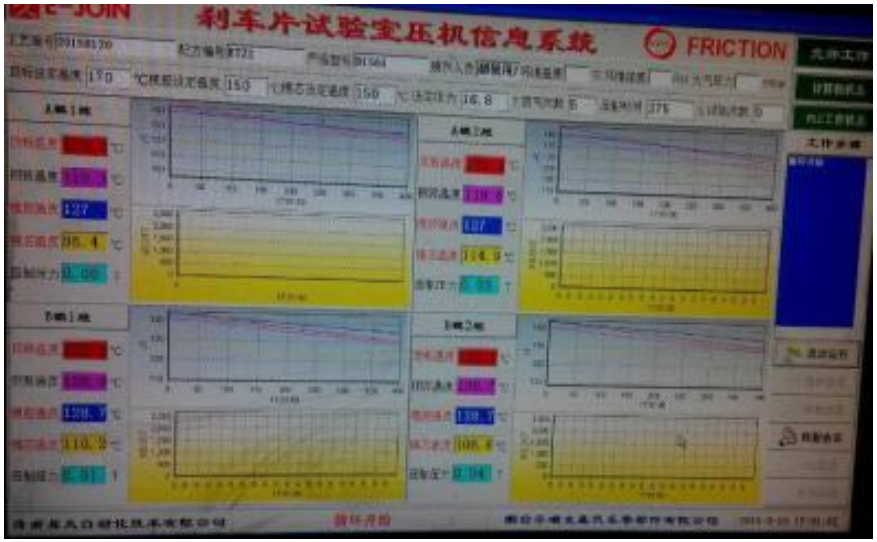
- One Protype Press
- 100% single cavity positive molding tech
- Lead time < 60 days

Pressure, time, temperature real-time collection



Engineering Technology-Formulation

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Semi-metallic

- Contain comparatively higher amount of ferrous ingredients
- Advantages: low cost; balance in performance, noise and wear
- Disadvantages: friction level lower than low-met product
- Main market: North/South America & Asia

Low-metallic

- Low Ferrous ingredients
- Advantages: High performance; velocity sensitive
- Disadvantages: noise level is not as good as semi-met product
- Main market: Europe

Formula

Ceramic/NAO

- Contain organic matters like mineral fiber, rubber, graphite, etc.
- Advantages: good noise performance; excellent pad wear; low wheel dust and long life
- Disadvantages: Fade is not as good as low-met and semi-met product
- Main market: North America/Asia

Cu Free

- New material instead of Cu
- Advantages: Environment friendly
- Disadvantages: Comparatively high cost in material and process
- Main market: Future US market according to the new regulation regarding copper content

Engineering Technology-Formulation Information

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Item	Formula	Class	Source	OE Program History	nominalμ
1	YF313	Semi-Metallic	Independent R&D	Honeywell Bendix,Jurid Highend AM Line;Delphi OES (Front axle)	0.40±10%
2	YF006	Low-Metallic	European OE Supplier Code SX160	BMW 3 Series , X1, Z4 (Front axle) (325x/i 325d 330x/i 330x/d) (X1: x-Drive 2,5i 2,8i 2,3d 2,8d) (Z4: 2,8i 3,0i); BMW 1 and 3 Series Mj. 2012 (Front axle) (118i, 120d, 120xd) (316i, 320i, 316d, 318d, 320d); BMW Base line (SOP 2013) (Front axle) (different models, 16 inch brake)	0.42±10%
3	YF007	Low-Metallic	European OE Supplier Code SX170	BMW 3 Series (Rear axle) (330i 330d) (model run out, only OES business); BMW 3 Series, X1 (Rear axle) (325x/I 325d 330x/i 330x/d 335x/i 335d) (X1: x-Drive 2,8i)	0.40±10%

Engineering Technology-Formulation Information

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Item	Formula	Class	Source	OE Program History	nominalμ
4	YF612	NAO	Independent R&D	“BESTURN B50 Rear axle， B70 Rear axle；FLORID Front axle"	0.36±10%
5	YF616R	NAO	Independent R&D	/	0.40±10%
6	YF618	NAO (Copper Free)	Independent R&D	JAC Heyue A30 Bench Marking	0.37±10%
7	YF646	NAO (Low Copper)	Independent R&D	JAC Heyue A30 Bench Marking	0.39±10%
8	YF648	NAO	Independent R&D	JAC Heyue A30 Bench Marking	0.37±10%
9	YF649	NAO	Delphi	GWM CHB011Front axle；GWM CHB021Front axle；GWM CHC011；JAC Heyue Front axle；JAC A2Front axle；JAC S2Front axle；DFM DF-1Front axle	0.38±10%
10	YF553	Hybrid	Delphi	SGMW；DFM Fengshen H30；JAC Yueyue Front axle	0.38±10%

Engineering Technology-
Friction Evaluation Method

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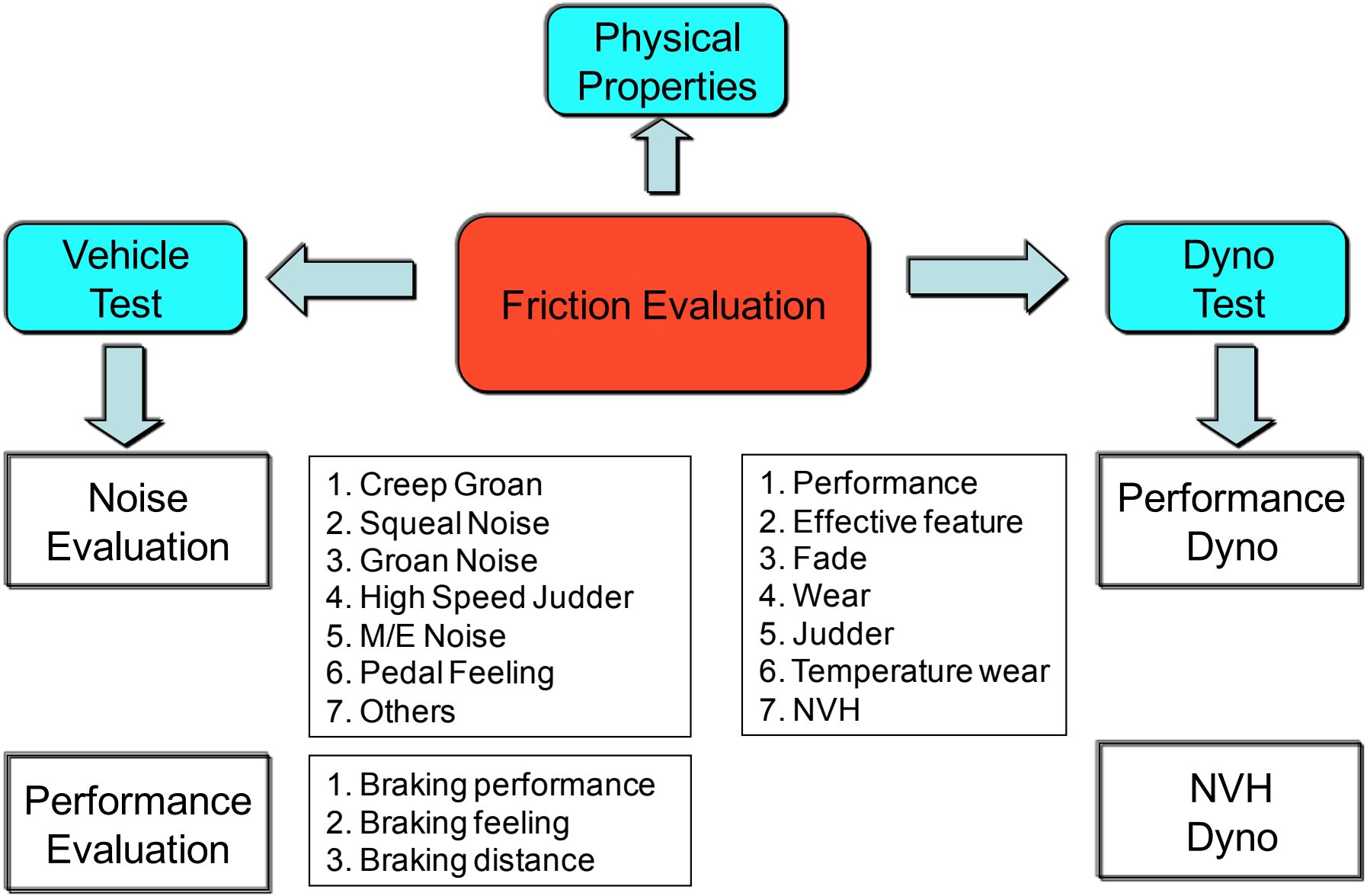

Engineering Technology-Test Capability

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Item	Test Name	Test Procedure	Item	Test Name	Test Procedure
1	Density	ISO 15484	10	Paint / Salt spray@ after 72 hours	GB/T 10125-1997
2	Porosity	QC/T 583-1999	11	Constant Speed Test	GB5763-2008
3	Shear Strength	GB/T 22309-2008	12	CHASE	SAE J661
4	Hot Shear	GB/T 22309-2008	13	Krauss	ECE R90/PV3212
5	Cold compressibility without shim	GB/T 22311-2008	14	AK-Master Performance	SAE J2522
6	Hot compressibility,400℃	GB/T 22311-2008	15	Dyno Pad Wear	Jaso C427-83
7	Heat Transfer, 400℃	GB/T 22310-2008	16	NVH	SAE J2521
8	Pad swell, 400° C	GB/T 22310-2008	17	Performance Requirements	QCT564-2008
9	PH index	JASO C458-1986	18	Customer requirements	Customer procedures

Engineering Technology-Testing Facilities

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Chemical Lab

Salt Spray

Engineering Technology-
Testing Facilities

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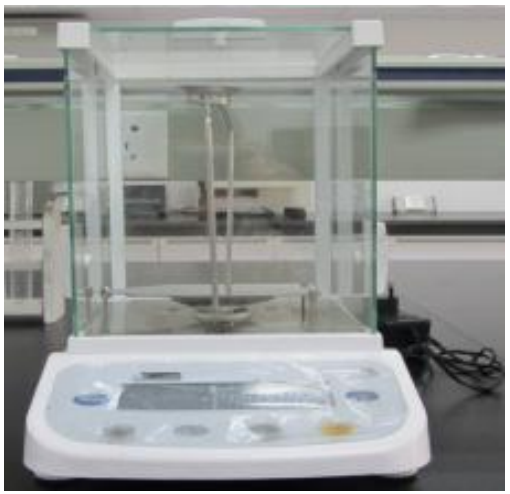
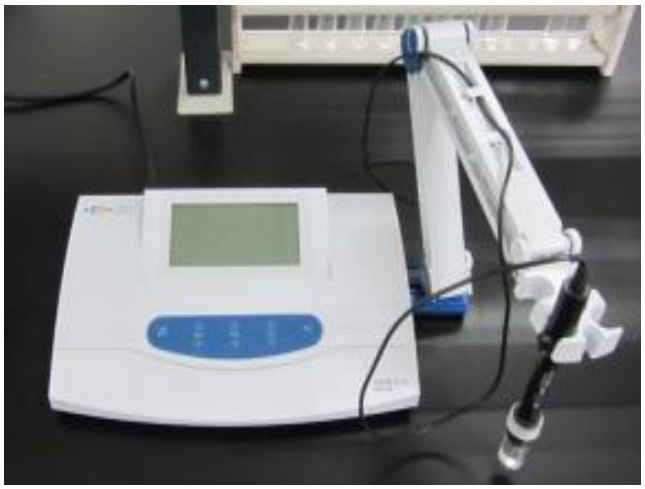


Density Analyzer



PH Analyzer

Ceramic Element Analyzer for Fibers

Engineering Technology-
Testing Facilities

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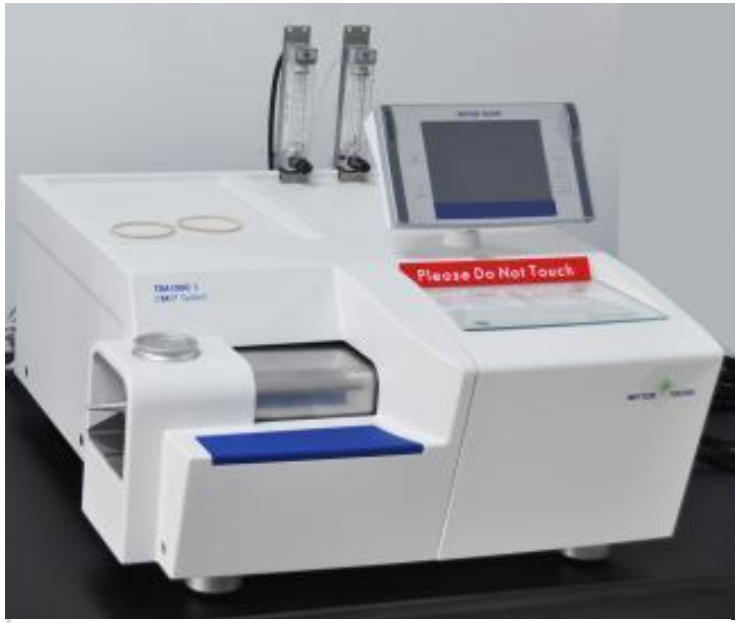

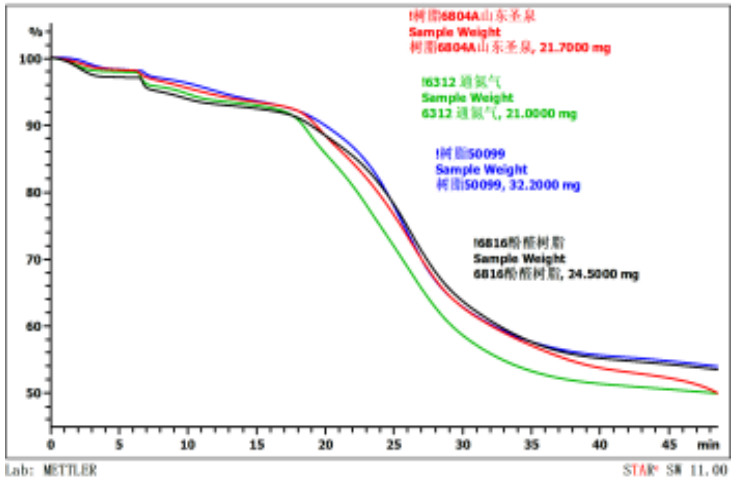

TGA Analyzer

C & S Analyzer

Engineering Technology-
Testing Facilities

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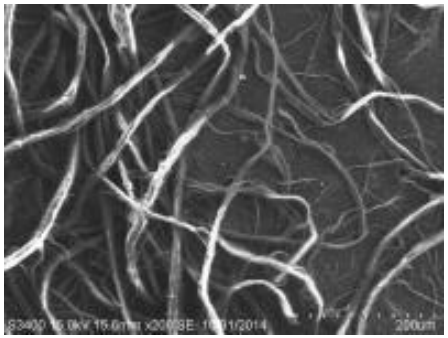
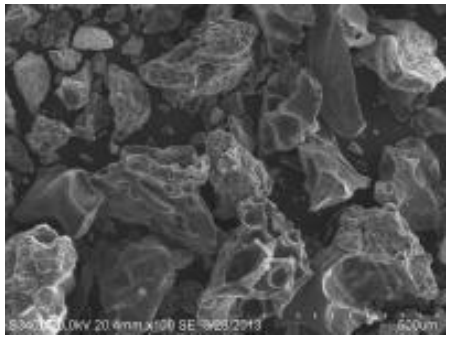
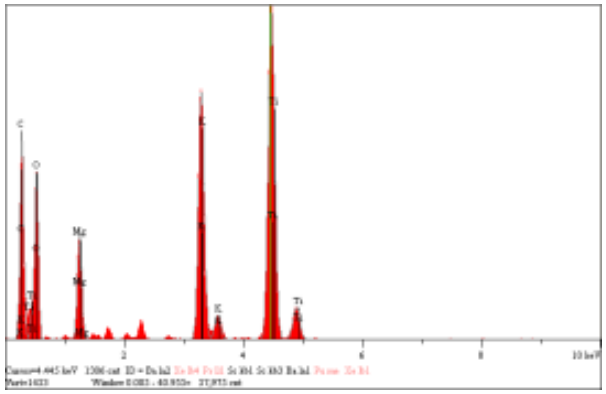
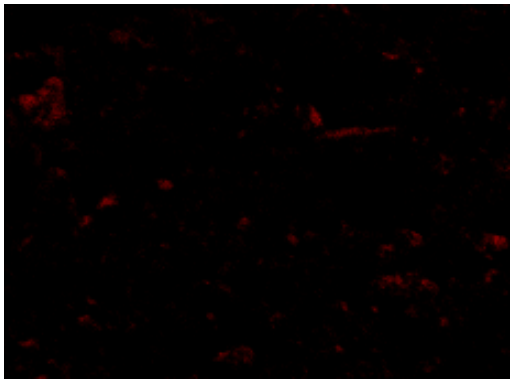


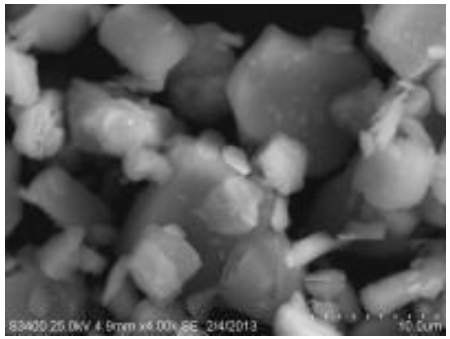
Aramid Fiber



Coke







Potassium
Titanate

Scanning Electron Microscope

Engineering Technology-
Testing Facilities

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Krauss Machine

1:5 Scale Dyno Machine

Low Pressure Wear Machine

Engineering Technology-
Testing Facilities

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Link 2876 Shear Machine

Link 200 Chase Machine

Link 1620 Compressibility Machine

Link 3802 Data Collector

Engineering Technology-Testing Facilities

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Link 3000 Dyno

- Min. electrical simulated inertia	4.9 kgm^2
- Min. mechanical inertia	42.86 kgm^2
- Disc 1(removable)	42.86 kgm^2
- Disc 2(removable)	42.86 kgm^2
- Max. mechanical inertia	128.58 kgm^2
- Max. electrical simulated inertia	200 kgm^2
- disc number	one fixed and two removable discs
- Control precision	≤ +/- 1%

Engineering Technology-
Testing Facilities

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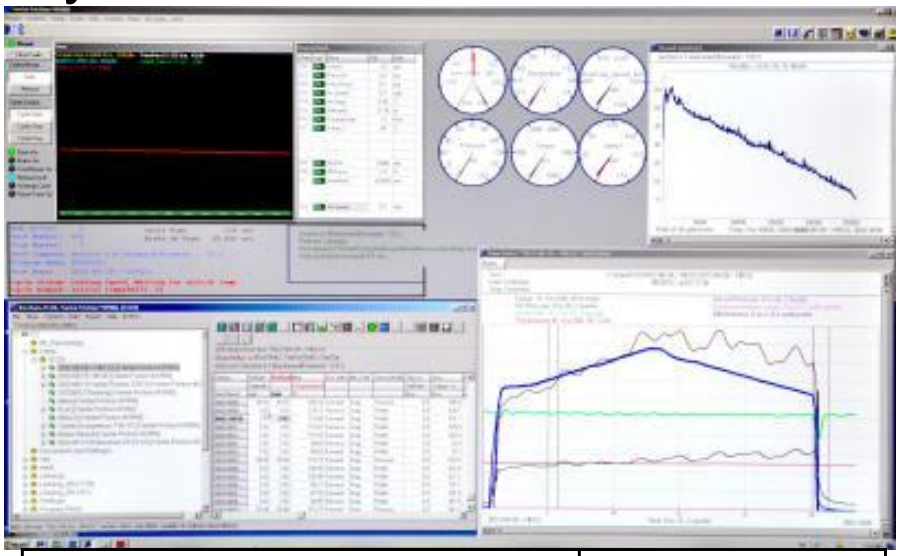
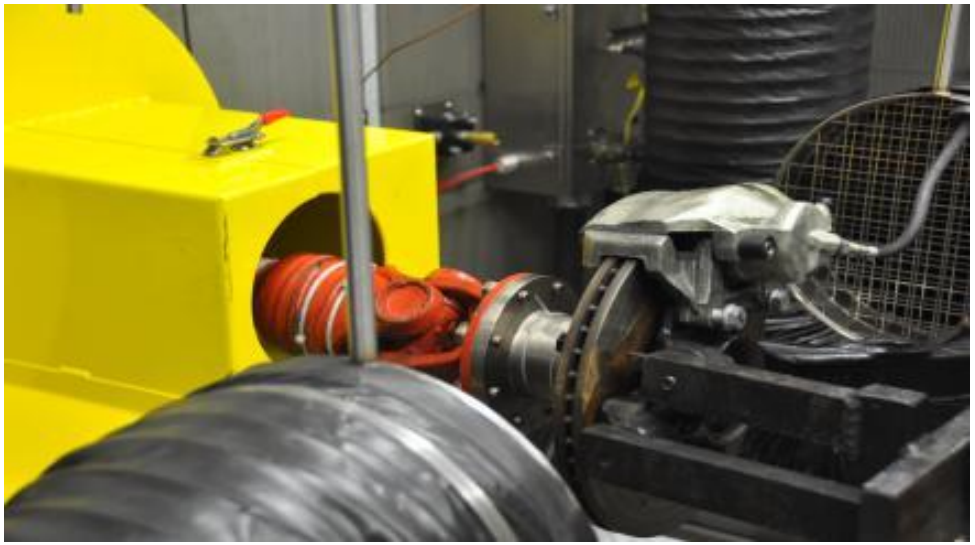
LINK 3900 Dyno





- Min. electrical simulated inertia	4.9 kgm^2
- Min. mechanical inertia	41 kgm^2
- Disc 1(removable)	75 kgm^2
- Disc 2(removable)	75 kgm^2
- Max. mechanical inertia	191 kgm^2
- Max. electrical simulated inertia	250 kgm^2
- Control precision	≤ +/- 1%
- Temperature range	-20 ~ 40 ℃
- Humidity range	15~90% RH

Competitive Advantages

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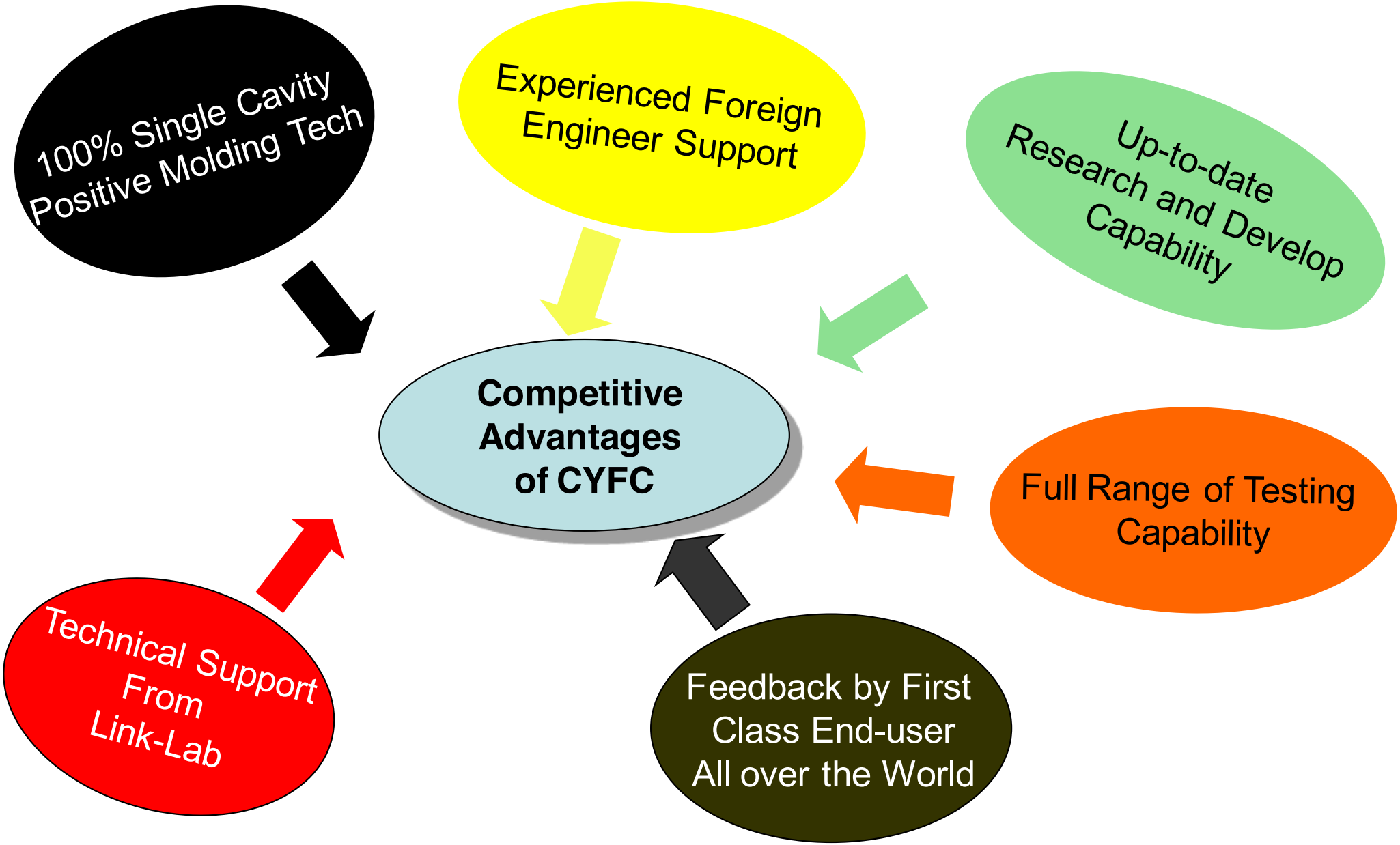

Bench Marking:
Semi-metallic Braking Performance

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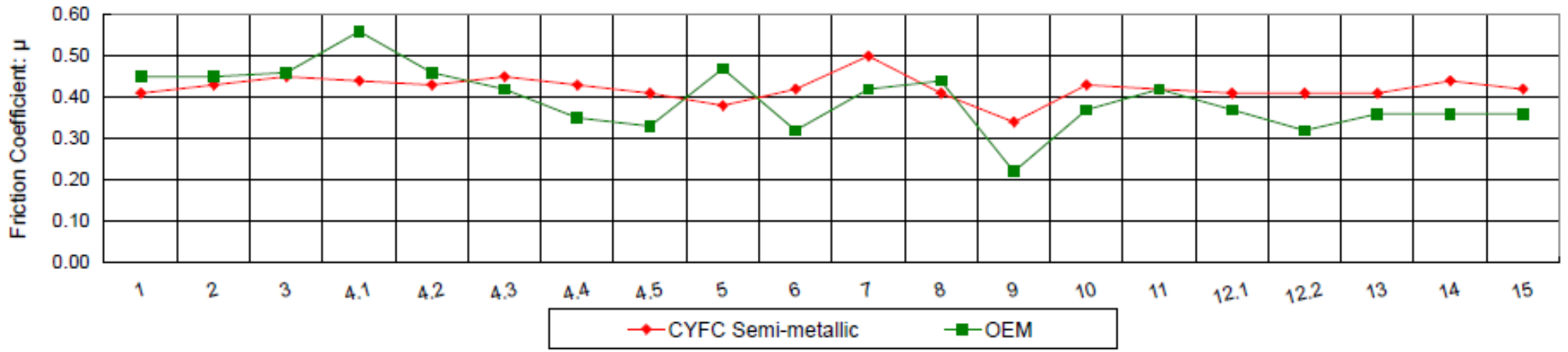
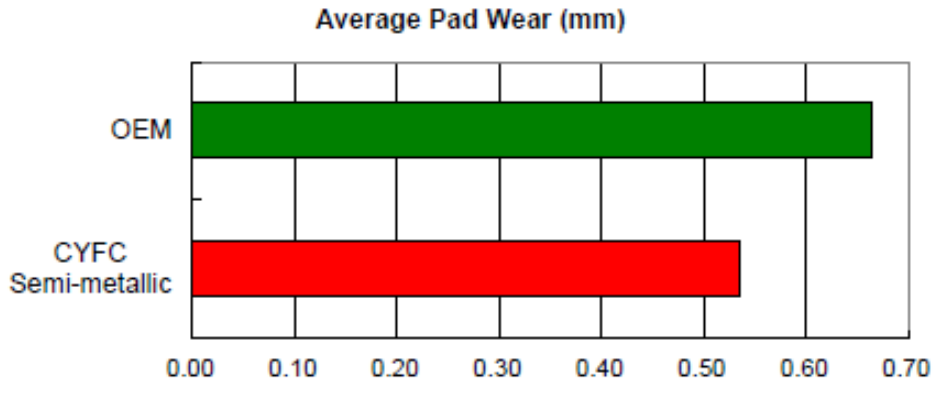
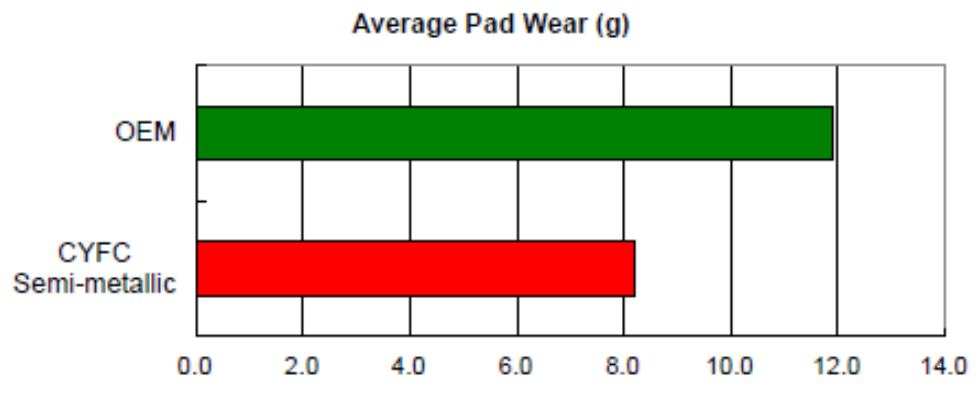
CYFC Semi-metallic VS OEM

SAE J2522 Performance Summary

Material	1	2	3	4.1	4.2	4.3	4.4	4.5	5	6	7	8	9	10	11	12.1	12.2	13	14	15
	Green Mu	Burnished Mu	Char. value	SS 40kph	SS 80kph	SS 120kph	SS 160kph	SS 200kph	Char. value	40℃ brake appl.	Motorway Check	Char. value	Fade 1(Min)	Char. value	Pressure/Line	Temperature Increase	Pressure/Line	Char. value	Fade 2(Min)	Char. value







Bench Marking:
Low-metallic Braking Performance

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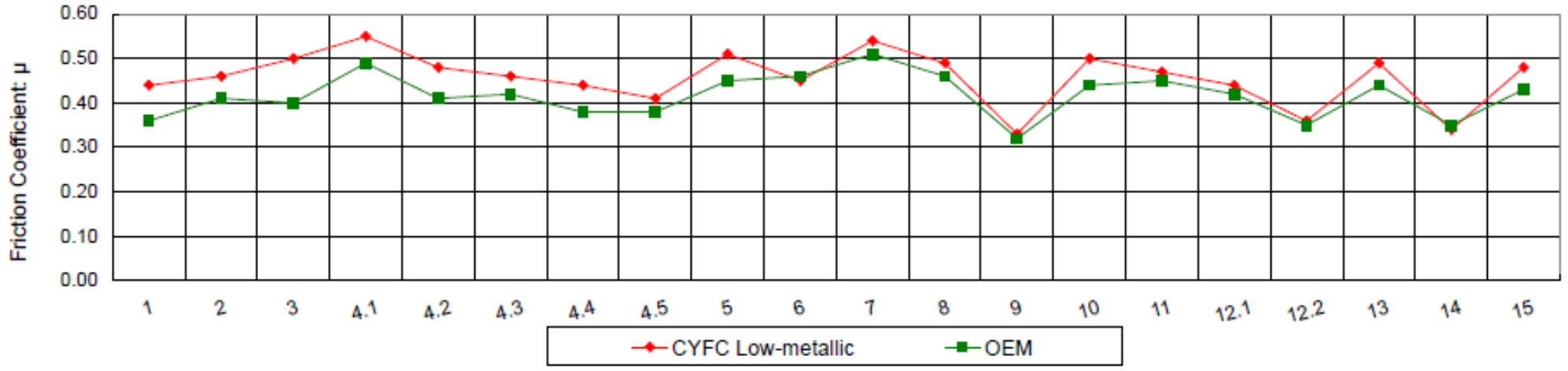
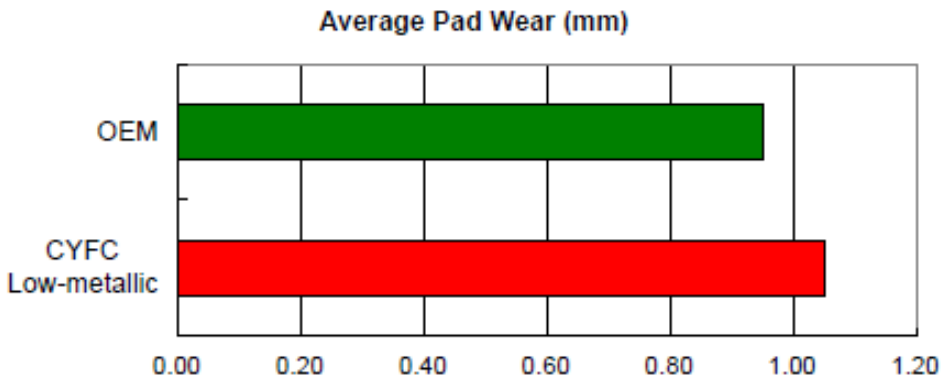
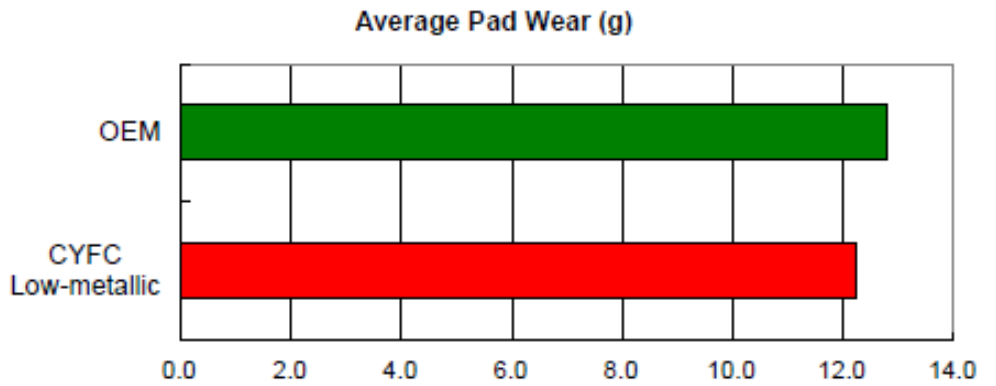
CYFC Low-metallic VS OEM

SAE J2522 Performance Summary

Material	1	2	3	4.1	4.2	4.3	4.4	4.5	5	6	7	8	9	10	11	12.1	12.2	13	14	15
	Green Mu	Burnished Mu	Char. value	SS 40kph	SS 80kph	SS 120kph	SS 160kph	SS 200kph	Char. value	40℃ brake appl.	Motorway Check	Char. value	Fade 1(Min)	Char. value	Pressure/Line	Temperature Increase	Pressure/Line	Char. value	Fade 2(Min)	Char. value







Bench Marking:
Ceramic Braking Performance

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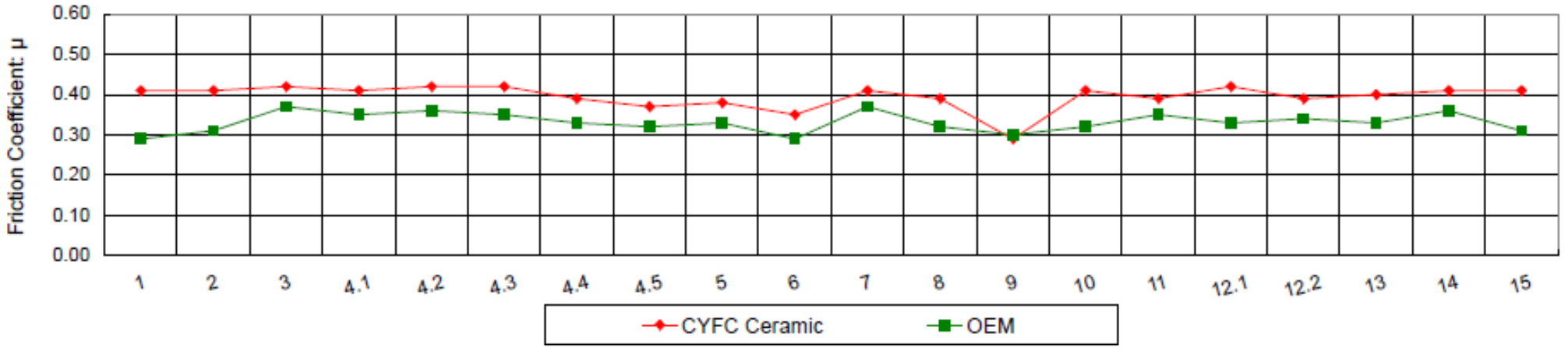
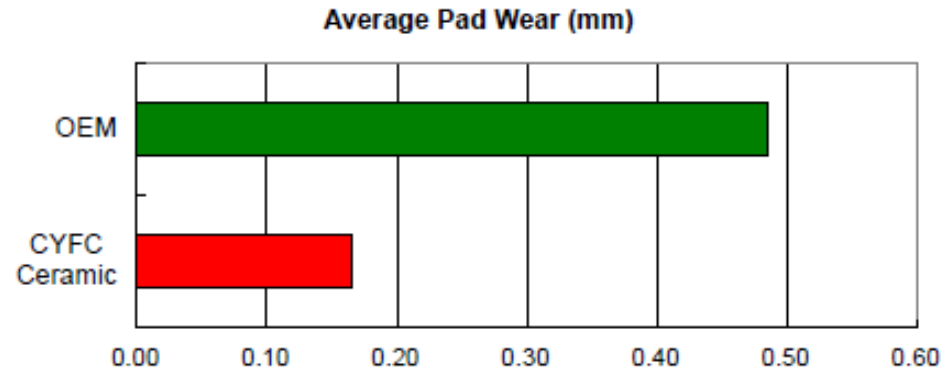
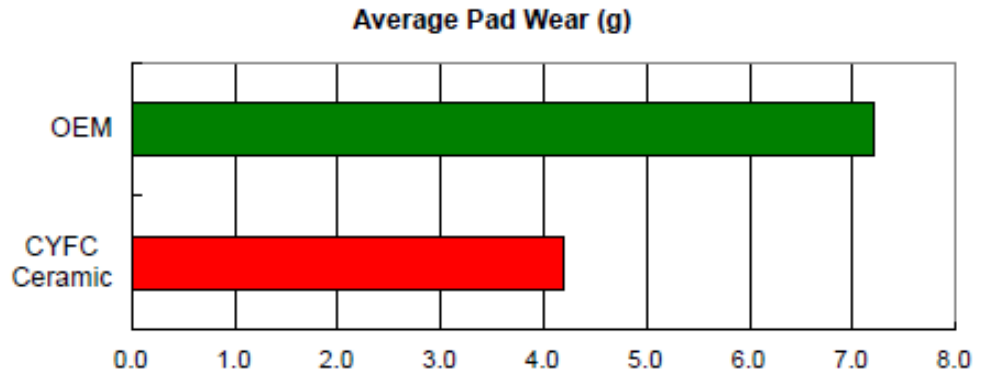
CYFC Ceramic VS OEM

SAE J2522 Performance Summary

Material	1	2	3	4.1	4.2	4.3	4.4	4.5	5	6	7	8	9	10	11	12.1	12.2	13	14	15
	Green Mu	Burnished Mu	Char. value	SS 40kph	SS 80kph	SS 120kph	SS 160kph	SS 200kph	Char. value	40℃ brake appl.	Motorway Check	Char. value	Fade 1(Min)	Char. value	Pressure/Line	Temperature Increase	Pressure/Line	Char. value	Fade 2(Min)	Char. value







Driving innovation in Future Friction

Your Safety is our mission

Thank you ！