The New Game Changer For The Brake Industry

Confidential

Today's Brake Friction Marketplace

BRAKE PARTS INC

"SEA OF SAMENESS"

Ceramic vs. Semi-Met

Ceramic

Advantages

- Quiet Operation
- Low Dust And Lighter Color
- High Consumer Awareness

Disadvantages

- Prone To Rust Jacking On The Inboard Rotor Surface When Paired With Ceramic Friction
- Although Improved Over Time, Still Second Best For Performance, Especially In Severe Use Environments
- New Regulations Forcing Copper Reduction (Most Formulas Have 15% - 25% Copper)

Semi-Met

Advantages

- Still Best For All Out Performance, Especially In Severe Use, High Heat Environments
- Does A Better Job Of Scrubbing And Cleaning The Rotor Than Ceramic Friction
- BPI Semi-Mets Not Impacted By New Environmental Regulations

Disadvantages

- Past Reputation For Noise
- Darker Dust
- Higher Rotor Wear

Legislation – Game Changer

- ~~Semi-Metallic~~
- ~~Ceramic~~
- **New Hybrid**
  - New Formulations Will Meet All Mandates Up To 2025!

AASA MEMA Brake Manufacturers C

An industry-wide self-certification program has been developed to comply with new laws in Washington and California. The Brake Friction Materials Self Certification Compliance Program confirms that friction material suppliers comply with the applicable legislation, regulations and requirements in those states in a phased approach.

PHASE 1
January 1, 2013

HERE'S THE LAW
As required by law, BPI provided baseline data to NSF International (an independent third party industry-sponsored registrar) before the deadline. Then, NSF Int'l provided the data to the WA Dept. of Ecology, in compliance with the Washington Better Brake Rule.

HERE'S WHAT WE'RE DOING
Brake Parts Inc has taken its first step and is fully compliant with Phase 1 of the certification program.

PHASE 2
January 1, 2014

HERE'S THE LAW
Phase 2 limits heavy metals such as Cadmium, Chromium, Mercury, Lead and Asbestiform fibers. This happens in 2014 for California, and in 2015 for Washington.

HERE'S WHAT WE'RE DOING
All BPI brake friction materials will be tested and certified compliant by NSF International. By doing so, BPI will meet the second phase of the legislation.

PHASE 3
January 1, 2021

HERE'S THE LAW
The laws further limit copper to less than 5% by weight in Phase 3 on or after January 1, 2021.

HERE'S WHAT WE'RE DOING
All BPI friction formulations will comply with Phase 3 requirements.

PHASE 4
January 1, 2025

HERE'S THE LAW
On January 1, 2025, California will limit copper to 0.5% by weight in Phase 4. That same requirement becomes effective in Washington on January 1, 2032 unless an advisory committee determines that alternatives brake friction materials are available.

HERE'S WHAT WE'RE DOING
All BPI friction formulations will comply with Phase 4 requirements. BPI is actively developing the next generation of low and no-copper friction materials at its R&D center in Winchester, KY. BPI has no copper ceramic formulas in production, and all semi-metallic brake pads meet 2025 requirements.

Per SAE J866, each brake friction formulation or material that is tested and found compliant will be given an edge code. It will include an A, B or N suffix as in the example shown. BPI-123-FF-N14
In sequence, this code indicates: manufacturer-friction formula-friction rating-compliance level/year of manufacture.

The "LeafMark" indicates a manufacturer's level of environmental regulatory compliance.

A – heavy metal and asbestiform fiber concentrations are below required levels

B – copper is limited to less than 5% by weight

N – copper is limited to less than .5% by weight

BRAKE PARTS INC

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Raybestos The best in brakes

Introducing…
A Revolutionary "FIRST" In Brake Pad Technology

Combine The Key Attributes From Ceramic And Semi-Metallic Into

One Brake Pad Formulation With BPI's Enhanced Hybrid Technology

The NEW Raybestos *EHT* Premium Brake Pads

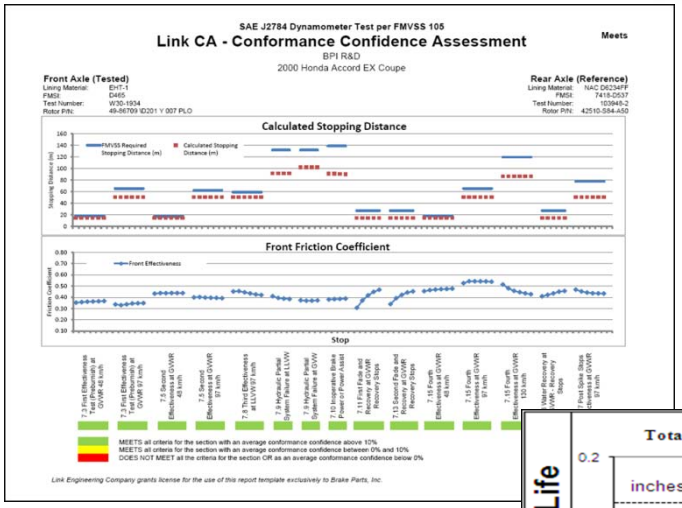
- ***EHT*** Is The Latest Innovation In Brake Pad Technology From BPI
- ***EHT*** Is Our BEST Performing Friction Formulation Ever For A Wide Array Of Vehicle Applications
- ***EHT*** Delivers The BEST Wear, Quiet Operation And Safe Stopping Performance Needed For Each Vehicle Application
- ***EHT*** Meets The New Legislation For The Elimination Of Hazardous Materials And Copper Reduction Up To Year 2025

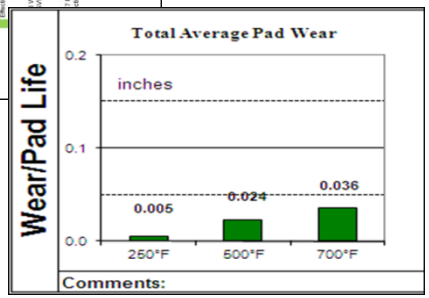
New Raybestos EHT Line Content Strategy

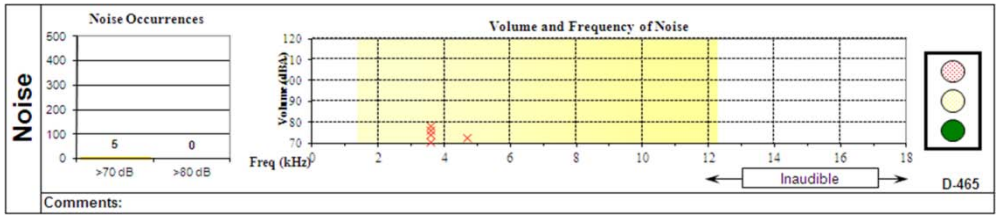
- 322 Part Numbers, 85% Coverage Based On Sales
- Concentration On Passenger Cars, SUVs And Light Duty Trucks Up To ¾ Ton
- Popular Applications And Vehicles Less Than 10 Years Old With Front & Rear Combinations
- Exclusive Quiet Steel® Noise Damping Shim
- Hardware Included In The Box For Most Vehicle Apps. (Promotes Proper Installation And Helps Prevent Comebacks)
- Competitively Priced

Multi-Faceted R&D And Testing Protocol

- Over 1 Million Miles Of Testing On The Roads: Domestics, FNP, Light Trucks, Fleets. Problematic Apps
- Extended Range Of Dyno Validation Tests On Performance, Wear And Noise Completed
- Improved Stopping Distance 20-25% With EHT Formulations
- Over 35% Improved Wear And Cost Per Mile ROI







Introducing A New Raybestos Brand

BRAKE PARTS INC

THE Game Changer!!

ELEMENT 3

ENHANCED HYBRID TECHNOLOGY

AUTOMOTIVE BRAKE PADS

Semi-Metallic
Ceramic
Hybrid

Innovation
Performance
Stopping Power

Element3 with EHT is:

Unprecedented…

Braking Control!

Brand Positioning Umbrella

Brand Essence

Element3
UNPRECEDENTED
BRAKING CONTROL

Brand Driver

Enhanced Hybrid Technology (EHT)

Brand Attributes

Innovation

- world's first enhanced hybrid brake pad
- best attributes of ceramic and semi-metallic

Performance

- long life
- better wear and durability
- no noise
- reduced dust

Stopping Power

- maximum braking control
- total safety confidence
- improved pedal feel

The Game Changer…

ELEMENT 3

ENHANCED HYBRID TECHNOLOGY

AUTOMOTIVE BRAKE PADS

The World's First Enhanced Hybrid Brake Pad, Element3 Incorporates Enhanced Hybrid Technology (EHT) To Deliver The Best Attributes Of Ceramic And Semi-Metallic In One Brake Pad. A Breakthrough Innovation Providing The Ultimate Performance And Stopping Power--The Keys To Gaining Unprecedented Braking Control Of Your Vehicle.