

# Polyurethane

*Press-On Tires • Load Wheels • Bearings*



 **MILLENNIUM**<sup>®</sup>  
industrial tire



40 years ago we set out to build a new kind of tire and wheel factory focused on quality and innovation.

# IMPROVE YOUR BOTTOM LINE



We recruited top chemical engineers and partnered with urethane experts from Bayer and DuPont Chemicals. We worked side-by-side with original equipment manufacturers and spent countless hours in the field learning from end users. Our chemical engineers concentrated on improving wheel performance and extending the physical properties of polyurethane compounds to tailor them for a broad range of applications. We introduced the burgundy standard and the rest is history.

Today, Millennium Tire is one of the largest producers of high performance cast polyurethane products in North America. We've developed proprietary compounds for the materials handling industry. Our Hyload urethane redefined performance for a new generation of demanding warehouse applications by dramatically reducing premature failures due to internal heat buildup in tires and wheels. We've continued to innovate and

find ways to make lift trucks more productive, carry heavier loads and run longer. Our super resilient SPS compound is another breakthrough, offering a softer ride without shortening battery life. From our experience with high speed roller coasters in the ride park industry, we developed Megaload—the new choice for extreme applications where nothing else works.

We know that longer lasting polyurethane wheels and tires can make the difference in your operation. We also know that quality and service count every bit as much as innovation. That's why we use state of the art computer controlled mixing and metering equipment and

digitally programmed convection ovens. That's why we've got the most experienced customer service team in the industry. When you buy a Falcon wheel you can rest easy knowing you're getting a quality product from people you can

count on every time. But don't take our word for it. Ask any of the thousands of warehouse managers and foremen across the country what our polyurethane tires and wheels have done for their bottom line.

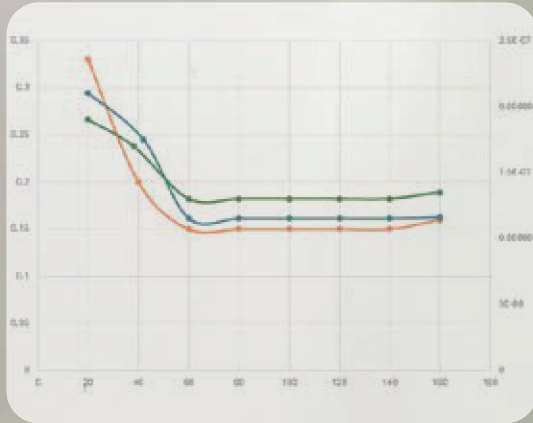
97A

MILLENNIUM

# HL3

## HYLOAD 3

More than just a load wheel compound – this is poly tire that keeps the industry moving. Soft enough to grip most concrete floors yet resilient enough to go the distance. Hyload 4 chemistry is the preferred solution for idler and drive tires at e-tailers, grocers and distribution centers across the country.



Engineered to move heavy loads. From watermelons to dishwashers this new material is optimized carry your operation to the next level.

 • OVERSIZED LOADS

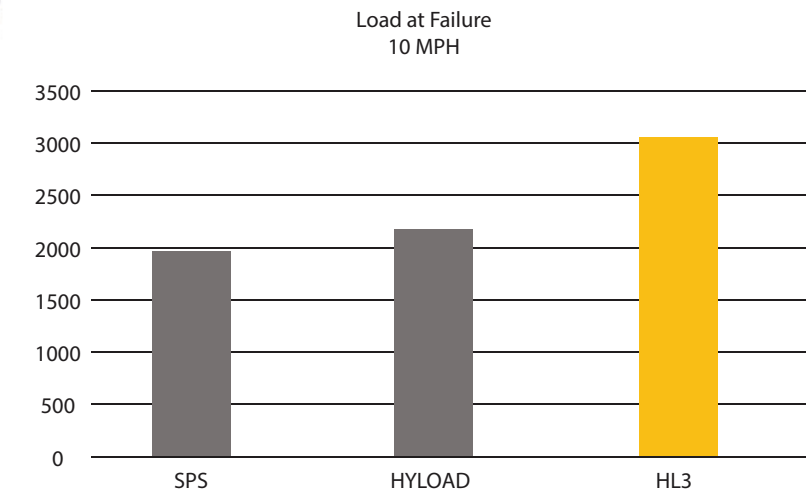
 • HEAVY WEIGHTS

 • LIQUIDS

 • Nationally Proven

 • Top Endurance

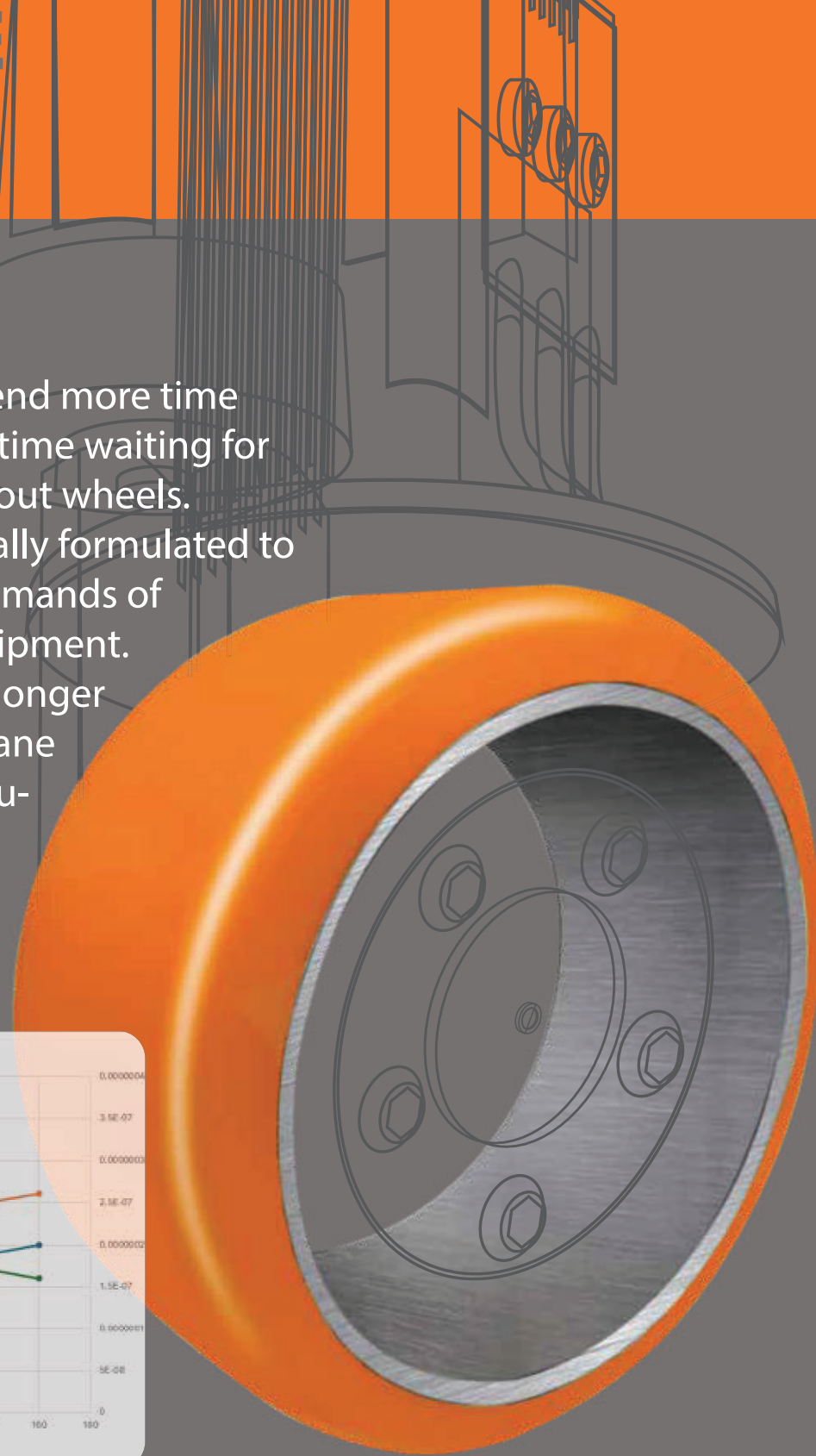
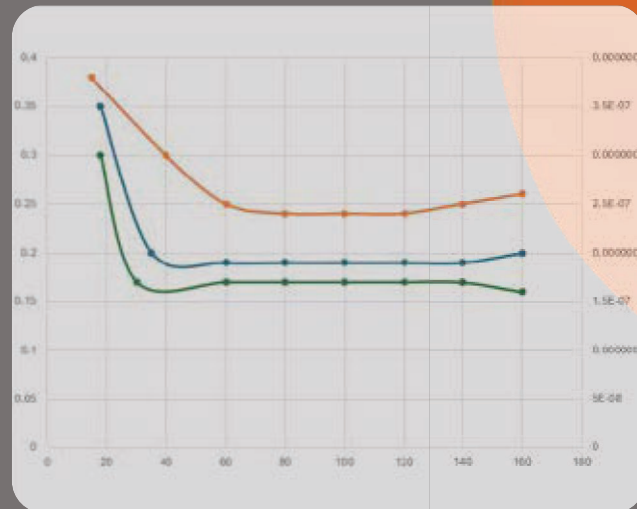
 • Preferred Solution



# BEAST OF BURDEN

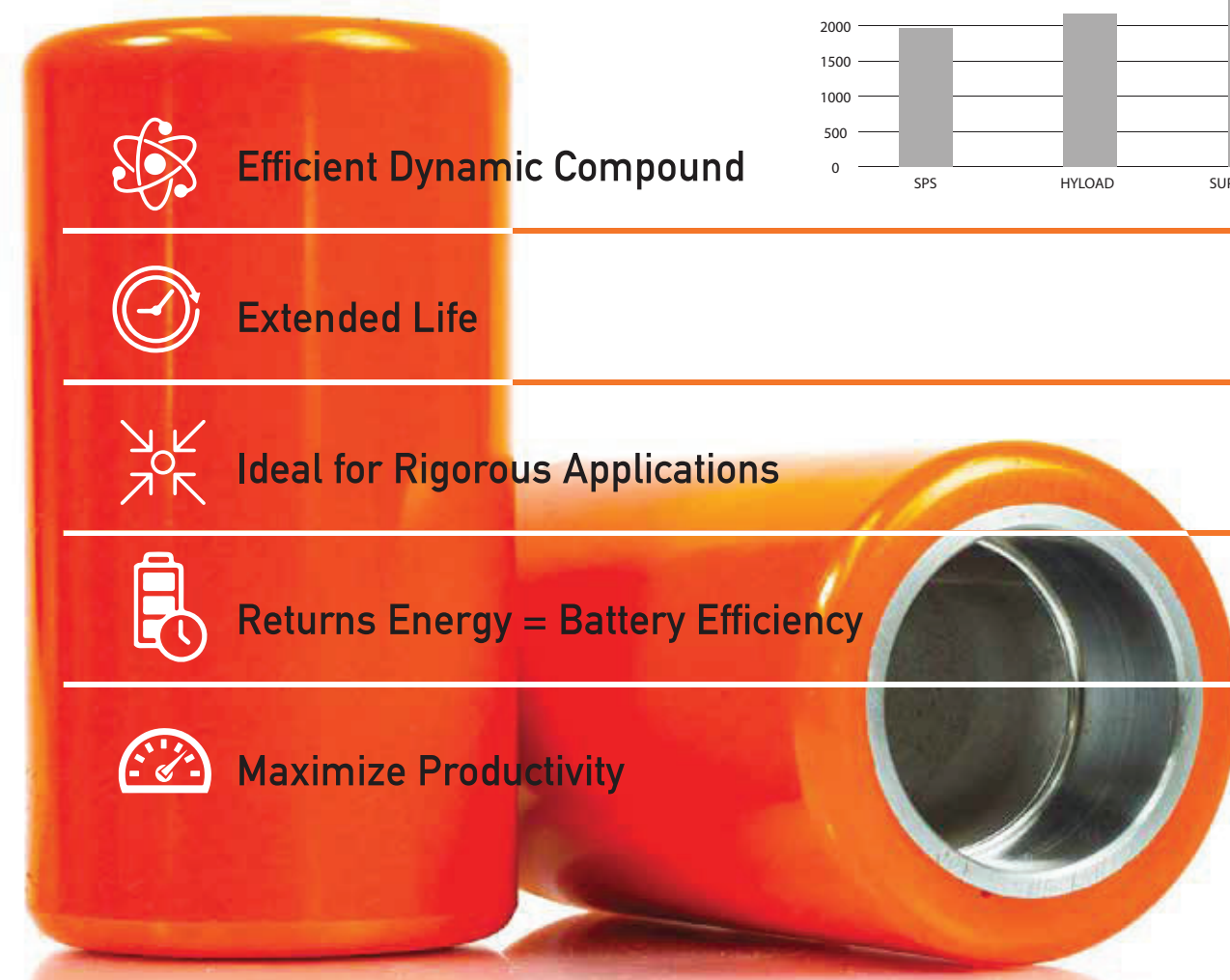
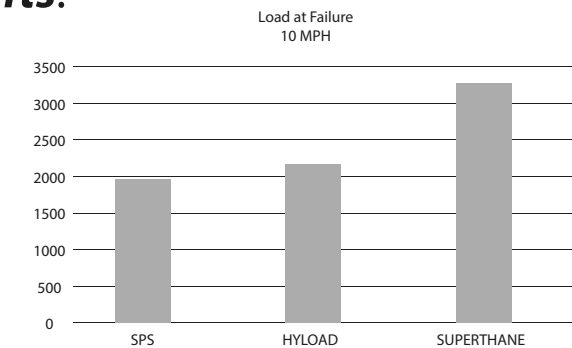
# SUPERTHANE 96A

**Your trucks** will spend more time pulling orders and less time waiting for a mechanic to change-out wheels. **Superthane** is specifically formulated to handle the rigorous demands of today's warehouse equipment. If you are looking for a longer ride, test drive Superthane and see what 21st century chemistry can do to maximize your fleet's productivity.



# SUPERTHANE

Uses next generation processing technology to yield near Vulkollan like performance out of a conventional isocyanate. Think of it like a turbo charger for your Volkswagen. Our R&D team leveraged advances in urethane chemistry to create an extremely efficient dynamic compound who's polymer chains won't degrade when subject to **long runs** and **extended shifts**.



-  Efficient Dynamic Compound
-  Extended Life
-  Ideal for Rigorous Applications
-  Returns Energy = Battery Efficiency
-  Maximize Productivity

# TURBOCHARGED

# MEGALOAD

"THE NAME SAYS IT ALL"

Megaload derives its strength from a premium curative developed for heavy industrial applications with **extremely overloaded operating conditions**. Megaload **resists flat spotting** and can carry up to 25% more weight than standard urethanes.



RUNS LONGER



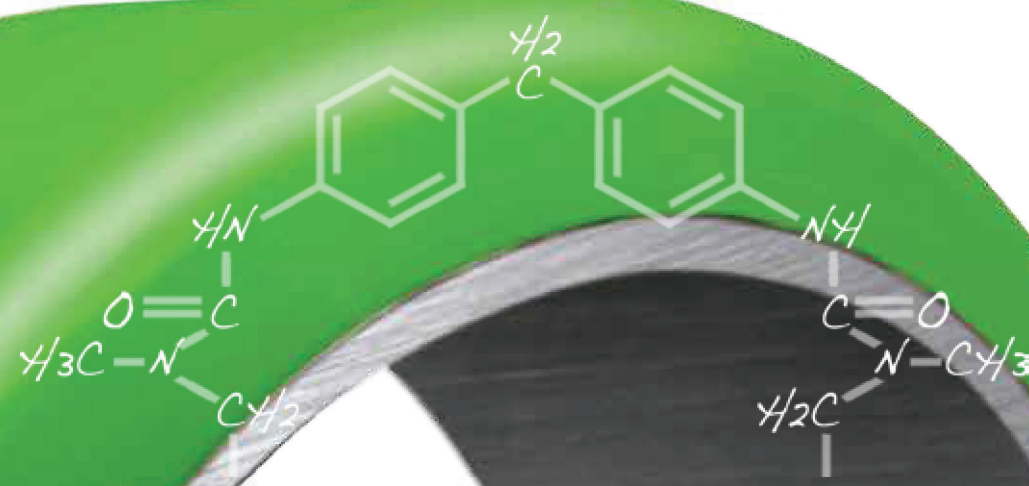
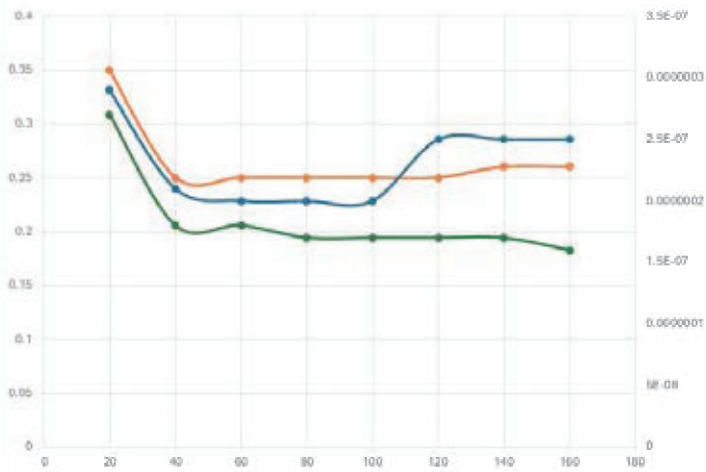
RESISTS FLAT SPOTTING



REDUCES MAINTENANCE COST

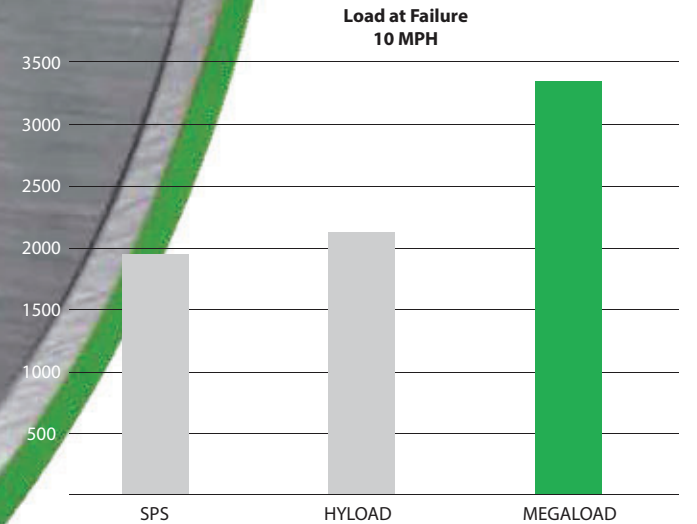


OUR TOP PICK



## Megaload

is site proven to run Longer and reduce maintenance costs and is still our Chemist's top recommendation when the might of Hercules must be summoned to get you through a shift.



# EXTREME CONDITIONS

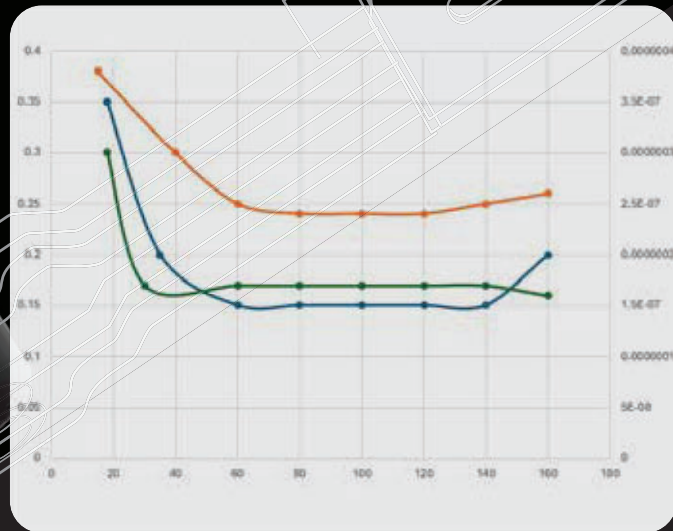
# Hyload Soft

Offers both *Value* & *Performance*

and is a **GREAT OPTION** for drive tires on reach trucks and narrow aisle equipment.

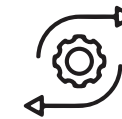


# HLS



Our **hybrid compound** that utilizes the same chemical backbone as Hyload but is modified to **yield a softer tread compound** with **enhanced traction**.

Developed for one of the largest hardware and home improvement distributors in the country and **standard issue for many OEM production trucks**, this formula is now available to all Millennium customers.



HYBRID COMPOUND



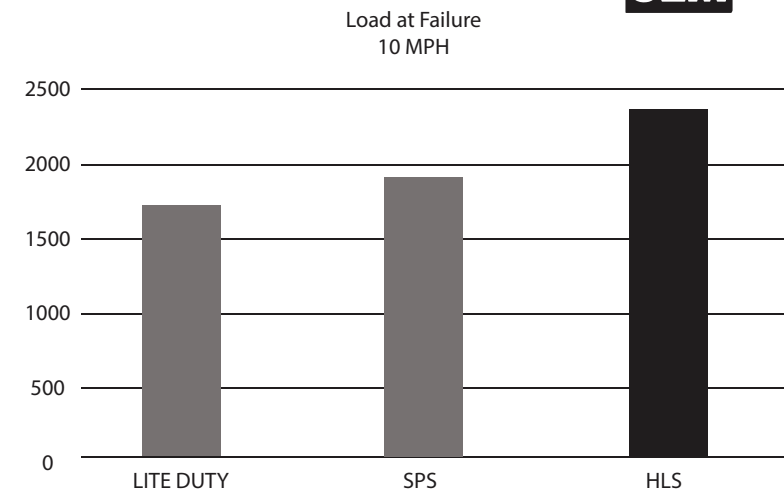
ENHANCED TRACTION



SOFTER TREAD = SOFTER RIDE



OEM COMPLIANT



# CAN'T GET NO

# TRACTION?

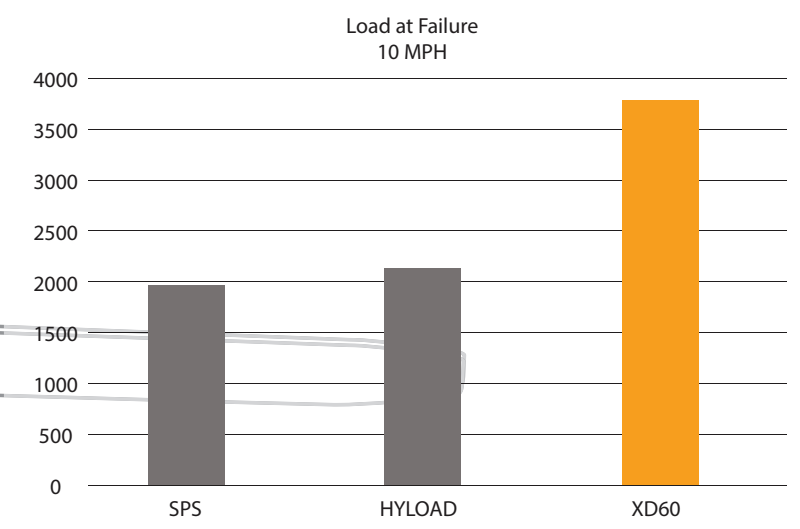
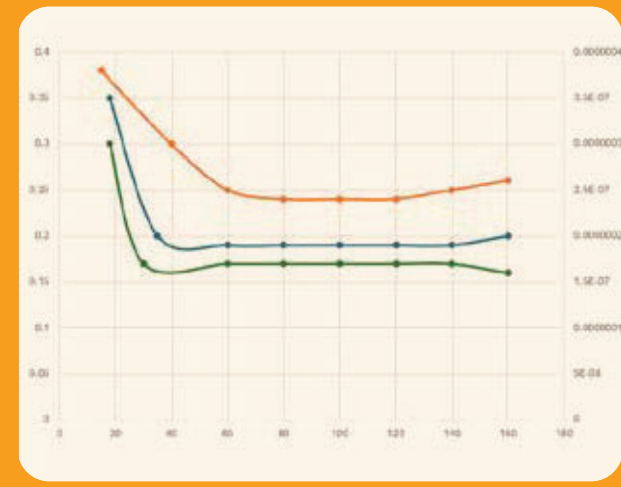
# XD60 60D

MILLENNIUM



A higher NCO polymer formulated to handle *extreme loading conditions* in your toughest application. XD60 leverages an exotic isocyanate to slow the rate at which internal heat is generated in wheels as they roll along with stiffer polymer chains to *enhance performance during cyclic deflection*.

-  EXTREME LOADING CONDITIONS
-  STIFFER POLYMER CHAINS
-  ENHANCED PERFORMANCE
-  SLOWS INTERNAL HEATING



**XD60** was originally developed to help customers with overloaded tire applications but a growing number of progressive DC managers are taking advantage of this premium tread material to get more out of their fleets.



# DISRUPTIVE INNOVATION

**HL4** is more than just a load wheel compound - this is the poly tire that keeps the industry moving. Soft enough to grip most concrete floors yet resilient enough to go the distance. Hyload 4 chemistry is the preferred solution for idler and drive tires at e-tailers, grocers and distribution centers across the country.

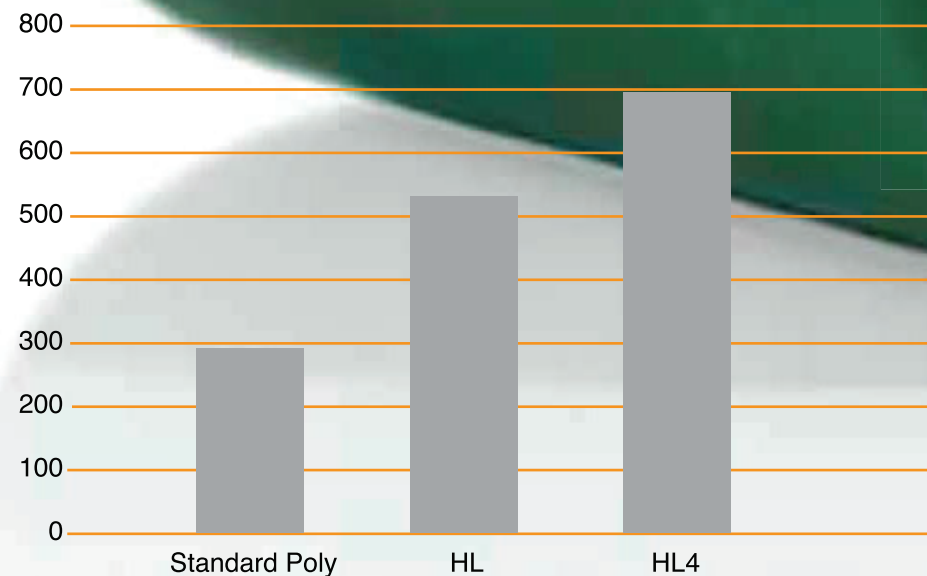
# HL4

## optimized for dynamics

- Long Runs
- High Speeds
- Continuous Operation

# BORN TO RUN

Hours of Running  
3175 lb/10MPH



Our new Hyload 4 compound is formulated for the long runs and high speed demands of modern warehouses. Water on aisle 7 and carrots on aisle 177 – no problem. Our chemists have optimized this compound to minimize the internal heat build-up that degrades polyurethane moving at the speed of today's 24/7 distribution centers.



# FALCONIUM®

**LOWER YOUR  
MAINTENANCE COST  
WITH ROLLER COASTER  
TECHNOLOGY**

First developed for high-speed roller coasters, **Falconium®** dramatically outperforms the legacy compounds of the 1980's due to its **ability to mitigate Hysteresis** - internal heat build-up that causes Polyurethane compounds to degrade and fail. The molecular structure of Falconium enables it to both generate less heat as it cycles under load, and tolerate more internal heat than competitors.

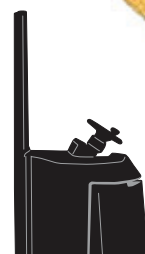
This translates into wheels that can run faster, longer and carry heavier loads opening up new possibilities for extreme applications and fleet optimization

 RUNS 35% COOLER

 LOWERS HEAT

 LONGER RUN TIMES

 REDUCES HEAT FATIGUE



# COMPOUNDS

Select The Right Tire For Your Job And Environment



## Tire Cross Reference

Name	Color	Stamped on Hub	Durometer	Equivalent	Upgrade
Raymond-001	Red	#-001	85A	SPS	Hyload
Raymond-003	Black	#-003	92A	Lite Duty	Hyload
Raymond-007	Caramel	#-007	95A	Hyload	Megaload
Raymond Flight Line	Blue	---	93A	Lite Duty	Hyload
Superior Standard	Burgundy	"S" before part #	92A	Lite Duty	Hyload
Superior	EZ Red	"S" before part #	85A	SPS	Hyload
Superior XL	Yellow	"S" before part #	96A	Hyload	Megaload
Thombert Dyalon A GHP	Green	---	95A	Hyload	Megaload
Thombert Dyalon B	Black/Red	---	85A	SPS	Hyload
AVT Standard	Gold	AVT	93A	Lite Duty	Hyload
AVT Premium	Black	AVT	95A	Hyload	Megaload

## Tire Applications

Applications	Lite Duty	SPS	Hyload	Megaload	Sensor Sliping
Freezer	Good	Best	Better	*NR	Recommended
Wet Conditions	Good	Best	*NR	*NR	Recommended
Metal Chips/Debris	Good	Better	Best	*NR	*NR
Heavy Loads	*NR	Good	Better	Best	*NR
Extreme Heat	*NR	Good	Better	Best	*NR
Long Runs	*NR	Good	Better	Best	*NR
Dock Boards	Good	Best	Better	*NR	*NR
Chunking	Good	Better	Best	*NR	*NR
Flat Spotting	*NR	Good	Better	Best	*NR
Noise	Good	Best	*NR	*NR	*NR
Battery Drain	Good	Best	*NR	*NR	*NR
Wide Joints	Good	Better	Best	*NR	*NR

## Wheel Applications

Applications	Lite Duty	SPS	Hyload	Megaload	Sensor Sliping
Freezer	Good	Best	Better	*NR	*NR
Wet Conditions	Good	Best	*NR	*NR	*NR
Metal Chips/Debris	Good	Best	*NR	*NR	*NR
Heavy Loads	*NR	*NR	Better	Best	*NR
Extreme Heat	*NR	*NR	Better	Best	*NR
Long Runs	*NR	*NR	Better	Best	*NR
Dock Boards	Good	Best	Better	*NR	*NR
Chunking	Good	Best	Better	*NR	*NR
Flat Spotting	Good	Best	*NR	*NR	*NR
Battery Drain	Good	Best	*NR	*NR	*NR
Wide Joints	Good	Best	Better	*NR	*NR

# TREADS



**Smooth Flat**  
All purpose drive tire.



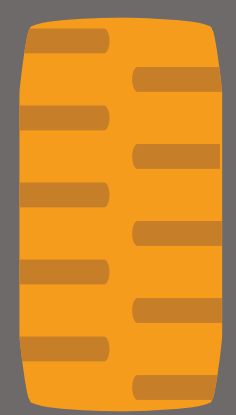
**Smooth Crown**  
Full crowned steer tire for easier turning.



**Semi Crown**  
Less dramatic than the Smooth Crown.



**Full Width**  
Flat tread with straight side walls provides maximum load capacity.



**Traction Contour**  
Lug pattern provides increased traction in outdoor or uneven surface applications.



**Cross Grove**  
1/4 x 1/4 diagonal cross grooves for increased traction on wet floors.



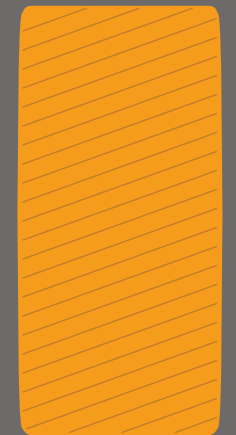
**Diamond Tread**  
1/4 x 1/4 bi-diagonal grooves for increased traction on wet floors.



**Xtreme Diamond**  
1/4 x 1/4 bi-diagonal grooves for maximum traction on wet floors.



**Grooved**  
Center groove helps to dissipate heat and provide better traction.



**Sensor Siping**  
Utilizes a series of parallel razor cuts which create vacuum pockets that dramatically improve traction.



# MILLENNIUM<sup>®</sup>

industrial tire

