



Hitachi Inspire Series™ SBR® chains are the highest rated standard roller chains in the world.

Stainless Steel Blast Treatment

Components of our new INSPIRE SERIES™ SBR® roller chains are coated with a film of stainless steel achieved through a proprietary blast treatment.

The film works with the high quality pre-lubricant to protect the chain from corrosive attack and extend life. The blast also gives the chain an enhanced silver color appearance.

Features Summary:

- 45%-50% Higher Fatigue Strength
- Highest Rated Roller Chains in the World
- Higher Horsepower Capacities
- New Ultra-high Hardness Shell On Bearing Parts
- Unique Stainless Steel Blast Treatment
- Solid Bushings and Solid Rollers

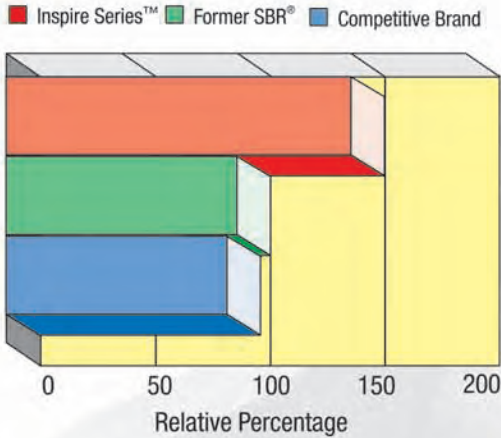


The Difference is New Patent Pending Production Technology...

- The Production Process
- Raw Material - High Quality Alloy Steel.
- Parts Fabrication.
- Heat Treatment.
- Hi-Energy Mechanical Process (Pat. Pend.).
- Stainless Steel Blast (Pat. Pend.).
- Assembly.
- Pre-Lubrication.
- Packaging.
- Shipping.

Chain Size	Maximum Allowable Working Loads (lbs)			Chain Size	Maximum Allowable Working Loads (lbs)		
	Inspire Series™	Competitive	% Difference		Inspire Series™	Competitive	% Difference
35	560	480	16.7%	120	8,540	6,830	25.0%
40	940	810	16.0%	140	11,310	9,040	25.1%
50	1,620	1,430	13.3%	160	14,900	11,900	25.2%
60	2,470	1,980	24.7%	180	16,600	13,670	21.4%
80	4,140	3,300	25.5%	200	18,600	16,090	15.6%
100	6,400	5,070	25.1%	240	25,400	22,700	12.0%

Fatigue Strength



Compressive Residual Stress Zones

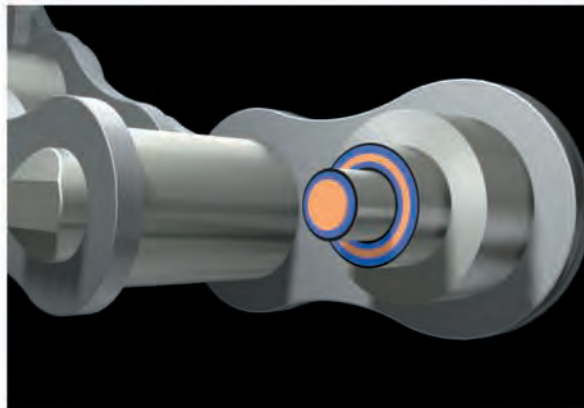
Compressive stress has long been known to improve fatigue strength. Sources of compression in existing chain products include shot peening, high interference fits between pins, bushings and side plates, and the carburized zone found on pins and bushings.

Our unique patent pending "Hi-Energy Mechanical Process" imparts substantial compressive stresses to the chain components (see chart right) resulting in a 45%-50% increase in fatigue strength. Horsepower ratings as well as the rated working loads are the highest in the world.

Triple Zone Hardness Wear Protection

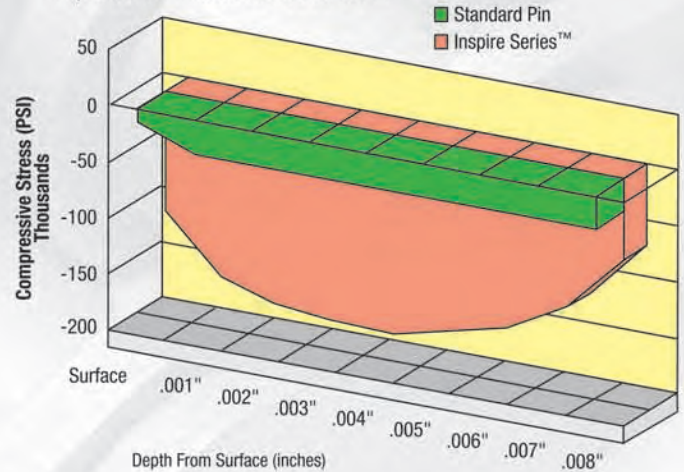
A residual, but important benefit of Hitachi's new "Hi-Energy Mechanical Process" is that an ultra-high hardness shell is developed on the surface of carburized pins and bushings. This effectively gives these wearing components three layers of hardness protection:

1. Ultra-high hardness shell (Black Zone - See Below)
2. High hardness carburized case (Blue Zone - See Below)
3. Core Hardness (Orange Zone - See Below).



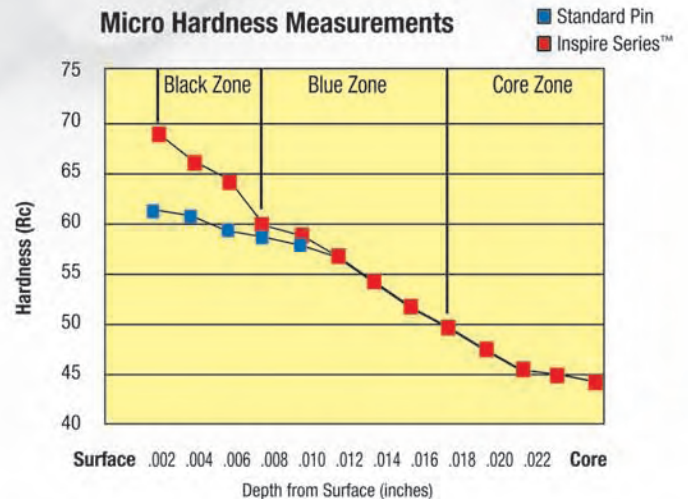
Compressive Residual Stress Measurements

Inspire Series Pin vs Standard Carburized Pin



Compressive stress measurements. The deeper trough of the INSPIRE SERIES™ SBR® pin means that the part has more compressive residual stress and is therefore more resistant to fatigue failure. Link plates, rollers and bushings undergo the same treatment with similar results.

Micro Hardness Measurements



Micro hardness measurements of the pins and bushings reveal an ultra-hard shell which fights chain elongation far better than can be achieved with conventional carburized parts

Benefits Summary:

- Greater resistance to fatigue failure.
- Longer wear life due to high hardness shell.
- Smaller chain sizes required (Higher HP ratings).
- Corrosion protection from proprietary stainless blast.