



# API Series Oil Field Chains

# Unleash the Power -

## API Series Oil Field Chains from SENQCIA

SENQCIA API series Oil Field Chains are designed and built to provide maximum performance and reliability for oil field service. These exceptional chains possess the highest fatigue strength ratings and shock load resistance compared with any standard chain series we currently build.

### Engineering and Technical Specifications

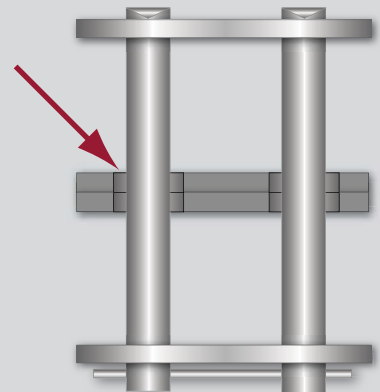
- Solid bushings and rollers
- Ballized pitch holes
- Wide waist link plates
- Press fitted center link plates for multi-strand chains
- Patented high energy mechanical treatment for pins
- Shot peened rollers and bushings
- Unique "bushed" multi-strand connecting links
- Factory applied hot dipped wax type pre-lubricant
- Special 4-pitch riveted type offset links available
- Patented Stainless Steel blast for link plates



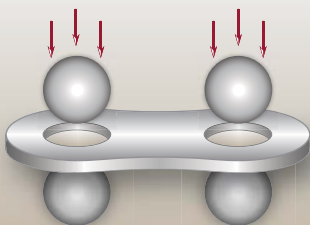
American  
Petroleum  
Institute  
License Number 7F-0025

### Bushed Type Multi-Strand Connecting Links

SENQCIA Multi-strand API Oil Field chain connecting pins possess unique bushed center plates. The bushing provides a press fit to the center plates that improves fatigue strength. These connecting links possess the same dynamic capacity as the base chain yet are easy to install in the field.



### Ball Drifted Link Plates

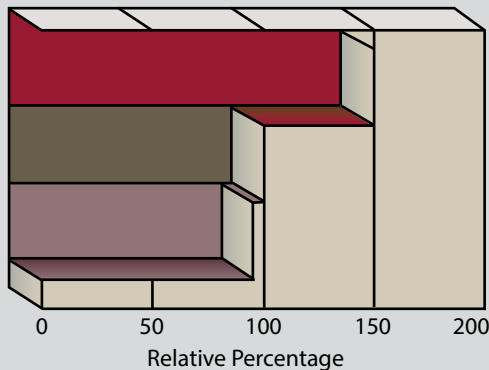


After heat treatment, link plates on SENQCIA API series Oil Field Chains are ball drifted to eliminate small imperfections and impart beneficial compressive residual stresses while improving fatigue strength providing greater reliable service life.

## API Chains, Features and Benefits

### Fatigue Strength

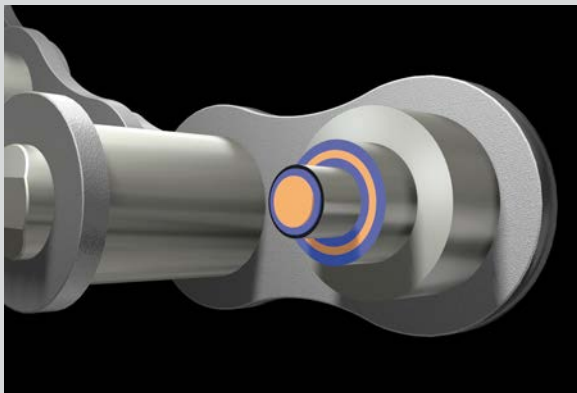
■ Inspire Series™ ■ Former SBR® ■ Competitive Brand



### Triple Zone Hardness Wear Protection

A residual, but important benefit of SENQCIA'S new "Hi-Energy Mechanical Treatment" is that an ultra-high hardness shell is developed on the surface of carburized pins. 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)



Micro hardness measurements of the pins 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.

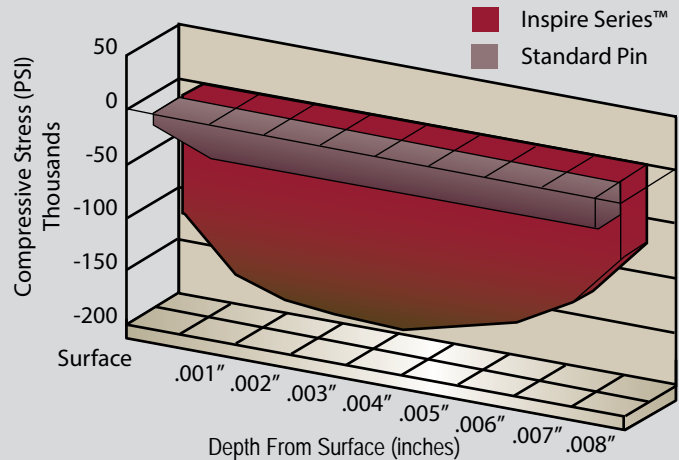
### Compressive Residual Stress Zones

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, bushing and side plates, and the carburized zone found on pins and bushings.

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

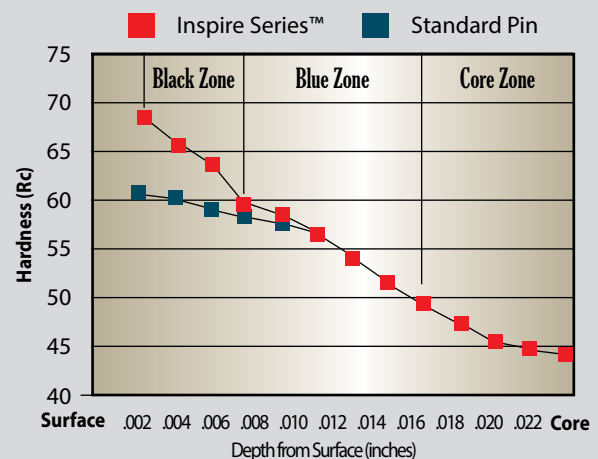
### Compressive Residual Stress Measurements

Inspire Series™ Pin vs. Standard Carburized Pin

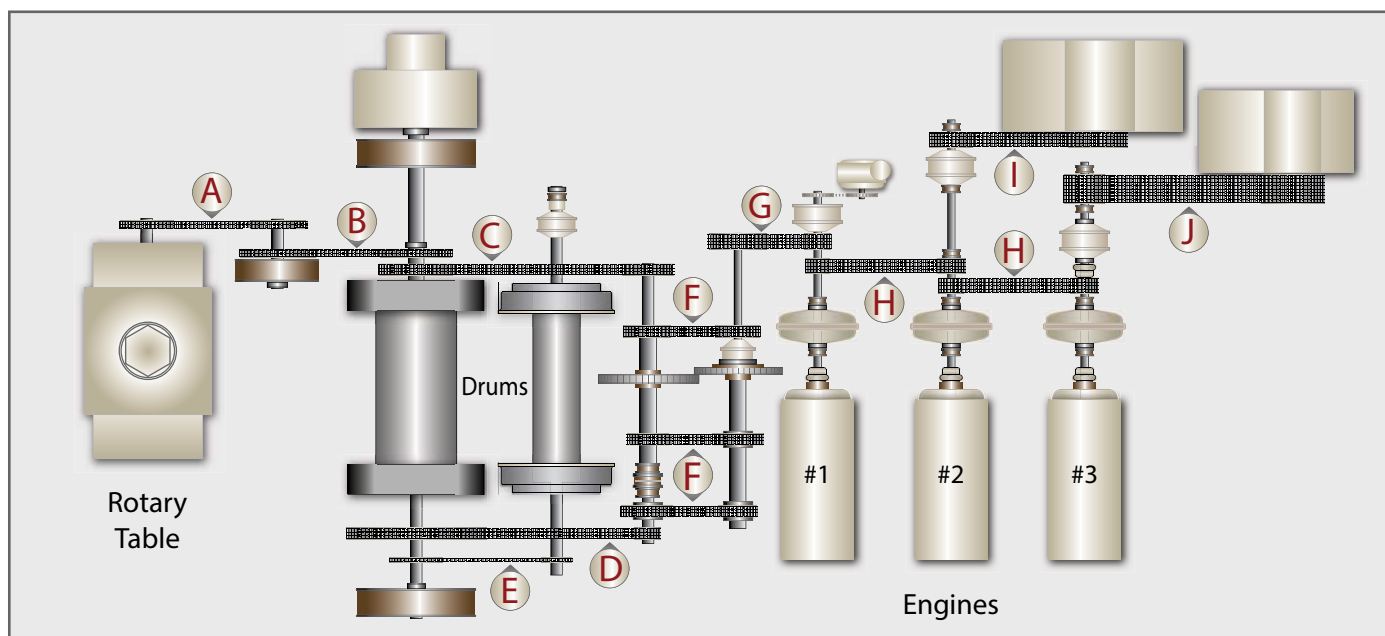


Compressive stress measurements. The deeper trough of the INSPIRE SERIES™ SBR® pin means that the part has more compressive residual stress and is therefore more resistant to fatigue failure.

### Micro Hardness Measurements

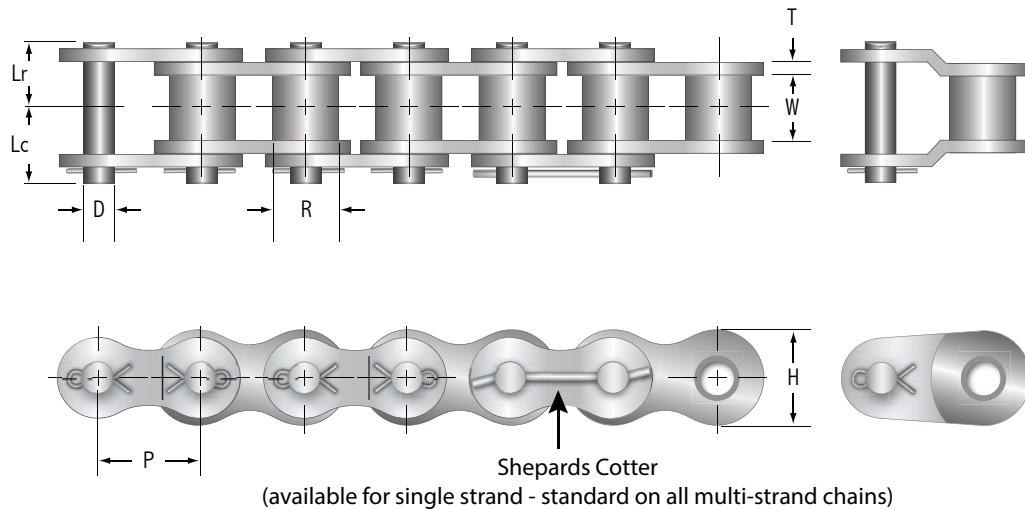


## Oil Field Drawworks, Compound and Pump Drives



COMPONENT	Rig Horsepower						
	500	750	1000	1500	2000	3000	4000
<b>A</b> Rotary Table	140-1 120-1	140-2 160-1	140-2 160-1	160-2 140-2	160-2	160-2	160-2
<b>B</b> Rotary Countershaft	140-1 120-1	140-2 160-1	140-2 160-1	160-2 140-2	160-2	160-2 200H-1	160-2
<b>C</b> High Drum	120-3 140-2	160-2 140-2	140-3 160-2	160-3	160-4	200H-3	
<b>D</b> Low Drum	120-3 140-2	160-2 140-3	140-3 160-2	160-3	160-4	200H3	240-3
<b>E</b> Cat Shaft	140-1 120-1	160-1 140-2	160-1 140-2	160-1 140-2	160-2	160-2 200H-1	160-2
<b>F</b> Transmission	120-2 100-3	140-2	160-2 140-3	160-3	160-4 160-3	160-4 200H-3	140-8
<b>G</b> Drawworks Input	100-3 100-4	100-4	120-3 120-4	120-4	120-6	120-8	140-8
<b>H</b> Compound	100-3	100-4	120-3 120-4	120-4	120-6	120-8	140-8
<b>I</b> Mid Pump Drive	100-4 100-3	100-6 100-4	120-4 120-3	120-6 120-4	120-8 120-6	120-8	140-8
<b>J</b> Mid Pump Drive	100-4 100-3	100-6 100-4	120-4 120-3	120-6 120-4	120-8 120-6	120-8	140-8

## Single Strand API Series Oil Field Chain

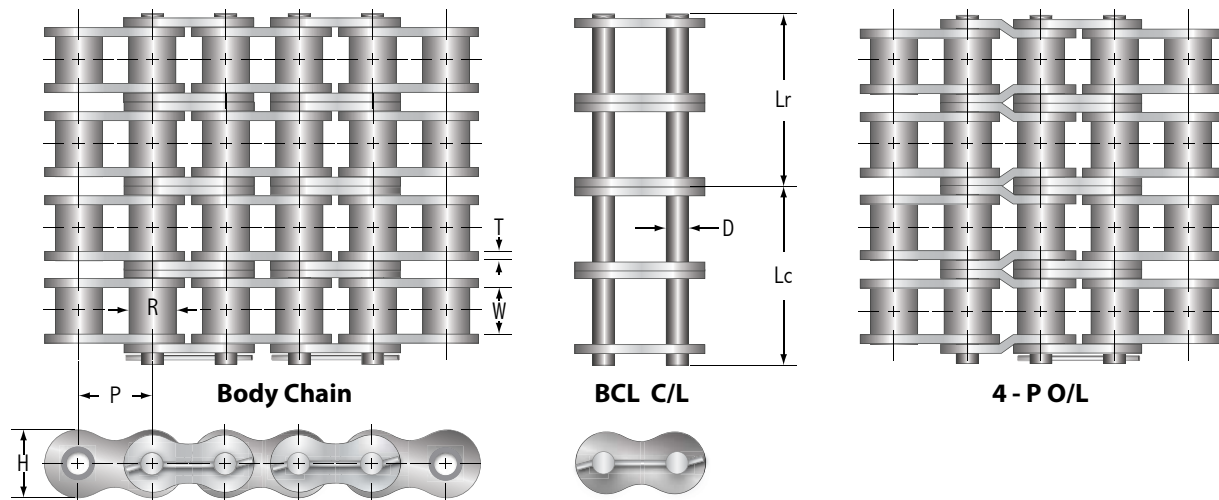


Chain Dimensions Are Given In Inches

	SENQCIa Chain Number	Chain Pitch P	Inside Width W	Roller Diameter R	Pin Diameter D	Link Plate Thickness T	R/L Plate Height H	C/L Chain to Riv. Pin End Lr	C/L Chain to Cot. Pin End Lc	Rated Working Load (Lbs)	Avg Ultimate Strength (Lbs)	Avg Chain Weight (Lbs/Ft)
ASME ANSI Standard Chains	80	1	0.625	0.625	0.312	0.125	0.921	0.646	0.732	4,140	17,600	1.69
	100	1-1/4	0.750	0.750	0.375	0.156	1.154	0.776	0.917	6,360	26,400	2.62
	120	1-1/2	1.000	0.875	0.437	0.187	1.382	0.976	1.126	8,540	39,000	3.87
	140	1-3/4	1.000	1.000	0.500	0.219	1.610	1.063	1.232	11,310	50,900	4.98
	160	2	1.250	1.125	0.562	0.250	1.839	1.268	1.437	14,900	63,200	6.58
	180	2-1/4	1.406	1.406	0.687	0.281	2.067	1.429	1.657	16,600	81,500	9.00
	200	2-1/2	1.500	1.562	0.781	0.312	2.354	1.547	1.878	18,600	105,500	11.38
	240	3	1.875	1.875	0.937	0.375	2.768	1.898	2.201	25,400	152,000	15.89
Heavy Series Chains	80H	1	0.625	0.625	0.312	0.156	0.921	0.705	0.819	4,140	20,200	1.88
	100H	1-1/4	0.750	0.750	0.375	0.187	1.154	0.835	0.972	6360	30,800	2.78
	120H	1-1/2	1.000	0.875	0.437	0.219	1.382	1.039	1.213	8,540	41,800	3.91
	140H	1-3/4	1.000	1.000	0.500	0.250	1.610	1.126	1.307	11,310	54,200	5.64
	160H	2	1.250	1.125	0.562	0.281	1.839	1.339	1.535	14,900	68,700	7.28
	180H	2-1/4	1.406	1.406	0.687	0.312	2.067	1.488	1.720	16,600	83,700	10.18
	200H	2-1/2	1.500	1.562	0.781	0.375	2.354	1.669	2.008	18,600	117,000	11.97

Dimensions subject to change

## 100 / 120 Multi Strand API Series Oil Field Chains



### 100 API Series Roller Chain Multi-Strand

Dimensions (inches)

ASME / ANSI Chain Number	Chain Pitch P	Inside Width W	Roller Diameter R	Pin Diameter D	Link Plate Thickness T	Roller Link Plate Height H	Number of Links in 10 ft	Available Construction	
								Cottered	Riveted
100	1-1/4	0.750	0.750	0.375	0.156	1.154	96	Yes	No

Pin Lengths and Chain Ratings

ASME / ANSI Chain Number	Number of Strands	C/L Chain to Riv. Pin End Lr	C/L Chain to Cot. Pin End Lc	Overall Length Riveted Pin Lr + Lr	Overall Length Conn. Pin Lr + Lc	Transverse Pitch for Multi-strand TP	Rated Working Load (Lbs)	Avg Ultimate Strength (Lbs)	Avg Chain Weight (Lbs / foot)
100-2	2	1.475	1.627	2.950	3.102	1.153	8,650	52,800	5.19
100-3	3	2.180	2.332	4.360	4.512	1.153	12,730	79,200	7.77
100-4	4	2.902	3.036	5.804	5.938	1.153	16,800	105,600	10.33
100-6	6	4.308	4.448	8.616	8.756	1.153	23,410	158,400	15.49

### 120 API Series Roller Chain Multi-Strand

Dimensions (inches)

ASME / ANSI Chain Number	Chain Pitch P	Inside Width W	Roller Diameter R	Pin Diameter D	Link Plate Thickness T	Roller Link Plate Height H	Number of Links in 10 ft	Available Construction	
								Cottered	Riveted
120	1-1/2	1.000	0.875	0.437	0.187	1.382	80	Yes	No

Pin Lengths and Chain Ratings

ASME / ANSI Chain Number	Number of Strands	C/L Chain to Riv. Pin End Lr	C/L Chain to Cot. Pin End Lc	Overall Length Riveted Pin Lr + Lr	Overall Length Conn. Pin Lr + Lc	Transverse Pitch for Multi-strand TP	Rated Working Load (Lbs)	Avg Ultimate Strength (Lbs)	Avg Chain Weight (Lbs / foot)
120-2	2	1.870	1.020	3.740	2.890	1.787	11,610	78,000	7.77
120-3	3	2.766	2.920	5.532	5.686	1.787	17,080	117,000	11.56
120-4	4	3.664	3.817	7.328	7.481	1.787	22,540	156,000	15.40
120-5	5	4.558	4.710	9.116	9.268	1.787	26,640	195,000	19.25
120-6	6	5.451	5.606	10.902	11.057	1.787	31,420	234,000	23.09
120-8	8	7.234	7.400	18.042	18.209	1.787	42,500	312,000	30.78



## 140 / 160 Multi Strand API Series Oil Field Chains

### 140 API Series Roller Chain Multi-Strand

Dimensions (inches)

ASME / ANSI Chain Number	Chain Pitch P	Inside Width W	Roller Diameter R	Pin Diameter D	Link Plate Thickness T	Roller Link Plate Height H	Number of Links in 10 ft	Available Construction	
								Cottered	Riveted
140	1-3/4	1.000	1.000	0.500	0.219	1.610	68	Yes	No

Pin Lengths and Chain Ratings

ASME / ANSI Chain Number	Number of Strands	C/L Chain to Riv. Pin End Lr	C/L Chain to Cot. Pin End Lc	Overall Length Riveted Pin Lr + Lr	Overall Length Conn. Pin Lr + Lc	Transverse Pitch for Multi-strand TP	Rated Working Load (Lbs)	Avg Ultimate Strength (Lbs)	Avg Chain Weight (Lbs / foot)
140-2	2	2.028	2.197	4.056	4.225	1.925	15,370	101,800	9.83
140-3	3	2.983	3.163	5.966	6.146	1.925	22,600	152,700	14.72
140-4	4	3.961	4.130	7.922	8.091	1.925	29,830	203,600	19.60
140-6	6	5.886	6.055	11.772	11.941	1.925	41,580	305,400	29.38
140-8	8	7.806	7.985	15.612	15.792	1.925	56,000	407,200	39.16

### 160 API Series Roller Chain Multi-Strand

Dimensions (inches)

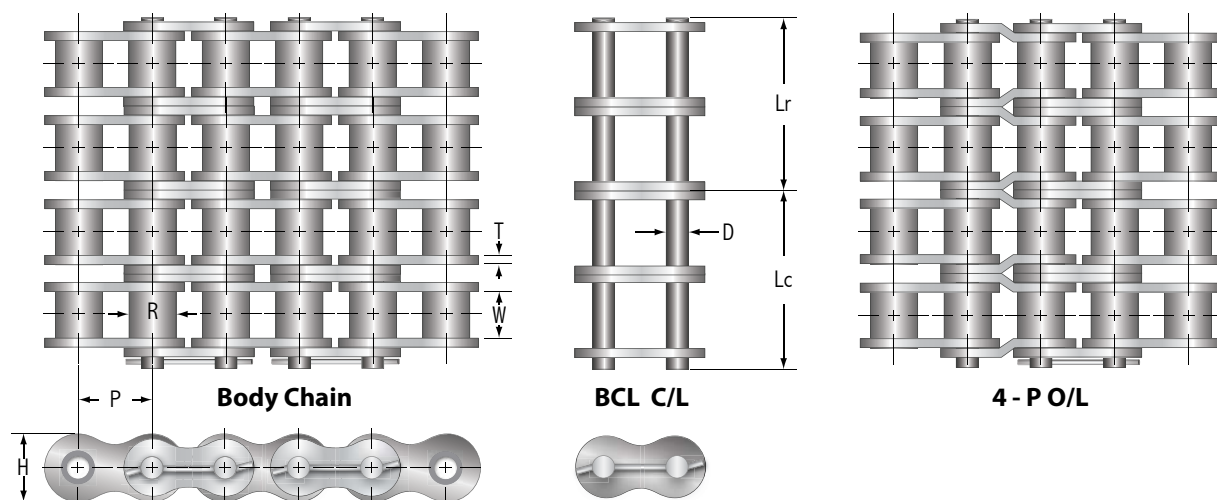
ASME / ANSI Chain Number	Chain Pitch P	Inside Width W	Roller Diameter R	Pin Diameter D	Link Plate Thickness T	Roller Link Plate Height H	Number of Links in 10 ft	Available Construction	
								Cottered	Riveted
160	2	1.250	1.125	0.562	0.250	1.839	60	Yes	No

Pin Lengths and Chain Ratings

ASME / ANSI Chain Number	Number of Strands	C/L Chain to Riv. Pin End Lr	C/L Chain to Cot. Pin End Lc	Overall Length Riveted Pin Lr + Lr	Overall Length Conn. Pin Lr + Lc	Transverse Pitch for Multi-strand TP	Rated Working Load (Lbs)	Avg Ultimate Strength (Lbs)	Avg Chain Weight (Lbs / foot)
160-2	2	2.417	2.591	4.835	5.008	2.303	20,230	126,400	13.07
160-3	3	3.571	3.740	7.142	7.311	2.303	29,750	189,600	19.60
160-4	4	4.732	4.902	9.465	9.634	2.303	39,270	252,800	26.05



## 200 / 240 Multi Strand API Series Oil Field Chains



### 200 API Series Roller Chain Multi-Strand

Dimensions (inches)

ASME / ANSI Chain Number	Chain Pitch P	Inside Width W	Roller Diameter R	Pin Diameter D	Link Plate Thickness T	Roller Link Plate Height H	Number of Links in 10 ft	Available Construction	
								Cottered	Riveted
200	2-1/2	1.500	1.562	0.781	0.312	2.354	48	Yes	No

Pin Lengths and Chain Ratings

ASME / ANSI Chain Number	Number of Strands	C/L Chain to Riv. Pin End Lr	C/L Chain to Cot. Pin End Lc	Overall Length Riveted Pin Lr + Lr	Overall Length Conn. Pin Lr + Lc	Transverse Pitch for Multi-strand TP	Rated Working Load (Lbs)	Avg Ultimate Strength (Lbs)	Avg Chain Weight (Lbs / foot)
200-2	2	2.953	3.288	5.906	6.241	2.819	27,350	211,000	22.67

### 240 API Series Roller Chain Multi-Strand

Dimensions (inches)

ASME / ANSI Chain Number	Chain Pitch P	Inside Width W	Roller Diameter R	Pin Diameter D	Link Plate Thickness T	Roller Link Plate Height H	Number of Links in 10 ft	Available Construction	
								Cottered	Riveted
240	3	1.875	1.875	0.937	0.375	2.768	40	Yes	No

Pin Lengths and Chain Ratings

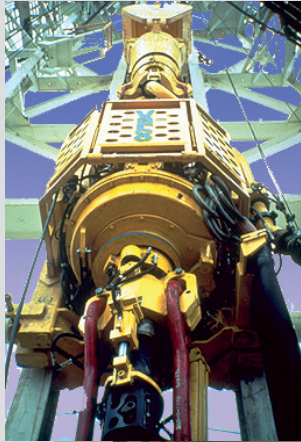
ASME / ANSI Chain Number	Number of Strands	C/L Chain to Riv. Pin End Lr	C/L Chain to Cot. Pin End Lc	Overall Length Riveted Pin Lr + Lr	Overall Length Conn. Pin Lr + Lc	Transverse Pitch for Multi-strand TP	Rated Working Load (Lbs)	Avg Ultimate Strength (Lbs)	Avg Chain Weight (Lbs / foot)
240-3	3	5.354	5.654	10.708	11.008	3.457	55,680	456,000	47.45

Dimensions subject to change



**Service Centers**

SENQCIA maintains full service warehouse centers in Atlanta, GA and Portland, OR as well as regional stocking distributor locations throughout North America



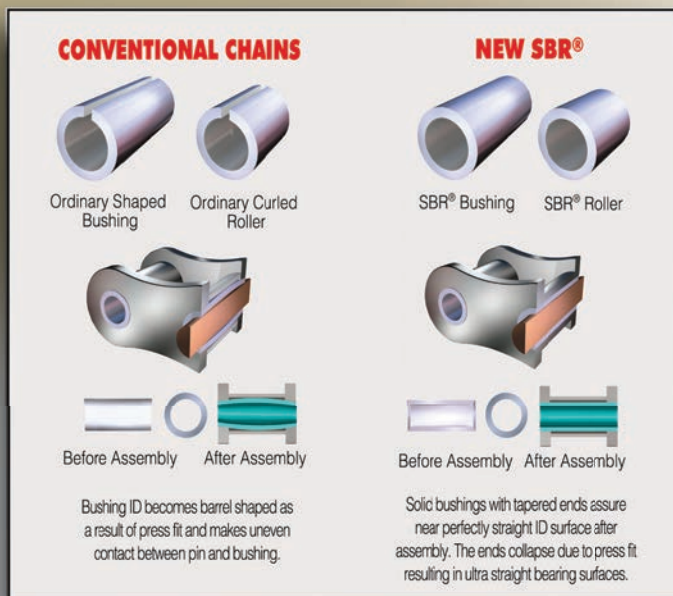


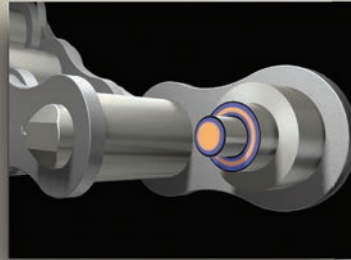
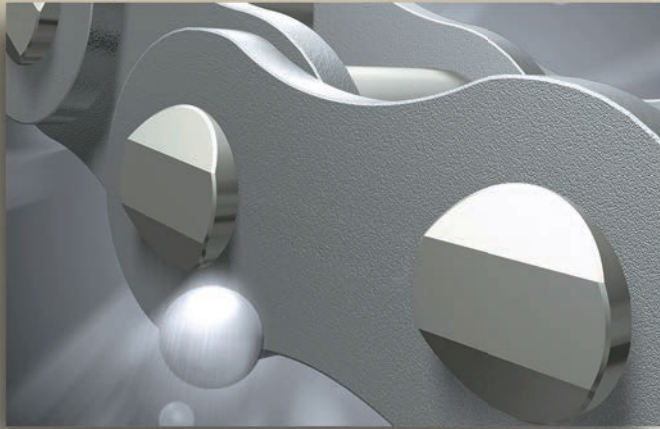
# ***The Highest Rated Standard Roller Chains In The World***

## **Roller Chain Developmental History**

In 1987 we introduced the first premium line of fully solid bushing-solid roller (SBR®) industrial roller chain products. Cold forged solid steel bushings and rollers replaced traditional curled parts to increase strength and extend chain life. In 1997 we added a unique coating to the pins and bushings and redesigned the connecting link to have a flat style closing plate so that the fatigue strength of the connector matched the fatigue strength of the base chain. A good product was made better as design focus shifted to improving chain wear life and increasing the endurance of the connecting links.

In 2004 we introduced the Inspire Series® SBR® brand taking a quantum leap forward in performance. New patented manufacturing processes yielded the highest rated roller chains





in the world. A "Triple Zone" hardened pin extended chain wear life further and better protected the chain from abrasive wear. 2015 saw a further improvement in the product as we changed pin materials from traditional chrome-molybdenum alloy steel to a special boron steel on most sizes which has further increased the strength and toughness of the product.

Whether for power transmission or conveying, count on SENQCIA to provide the ultimate in performance and value for industrial roller chain products and continue on as a Pioneer taking our next steps forward . . .





#### WA LOCATIONS

Unit 1 / 45 Inspiration Drive, Wangara WA 6065  
(08) 9303 4966

Unit 16 / 51-53 Kewdale Road, Welshpool WA 6106  
(08) 6314 1155

[support@chainanddrives.com.au](mailto:support@chainanddrives.com.au)

#### NSW LOCATION

Unit 7 / 70 Holbeche Road, Arndell Park NSW 2148  
(02) 9674 8611

[salesnsw@chainanddrives.com.au](mailto:salesnsw@chainanddrives.com.au)



A Mechanical Equipment Group Company

[chainanddrives.com.au](http://chainanddrives.com.au)