

Engineered Chain | Link-Belt® Oil Field Chains
(English-Inch)



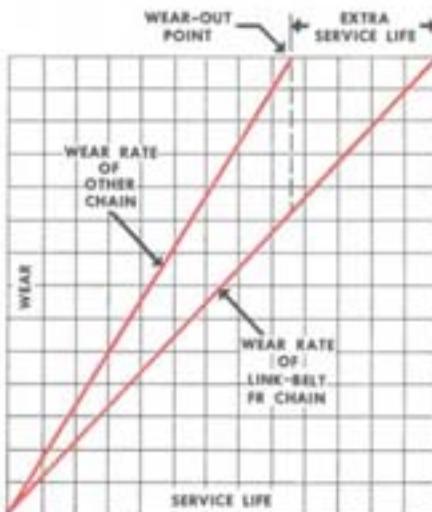
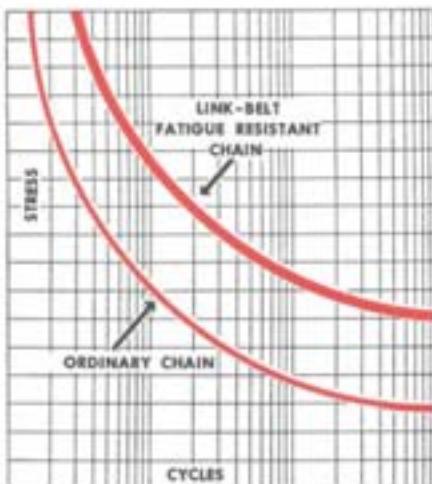
The world's most specified oil field chains – engineered for
longer service life in drilling rig applications



REXNORD

LINK-BELT® FR® FATIGUE RESISTANT ROLLER CHAIN

Advanced engineering and longer service life add up to a tough, reliable roller chain for the oil field industry.



Becoming the world's number one roller chain in oil field application was no accident.

After all, high productivity demands highly reliable equipment. And because Link-Belt® FR® roller chain is designed and engineered to surpass current ANSI standard requirements, it delivers performance you can count on in the harsh conditions usually encountered in the oil fields.

Wherever possible, we combine a series of cold-working operations with advanced heat-treating processes. This results in added strength and longer service life for Link-Belt roller chains— including sidebars, pins, rollers and bushings. And that translates to more load carrying capability, as well as lower cost per day of service life.

What's more, Link-Belt® FR® roller chain includes many other quality features which contribute to superior performance and ease of maintenance. Like fatigue resistant Shepherds Crook™ cotters. E-Z Assembly® design facilitates on-site coupling and uncoupling. And a proven prelubrication process substantially reduces wear during the initial operating period.

That's why, wherever wells are drilled, the first choice in roller chain is Link-Belt® FR® roller chain.



The Rexnord Corporation, Link-Belt Roller Chain Operation is licensed to use The American Petroleum Institute monogram on roller chain and transmission chain manufactured in accordance with API specification 7F.

Cold-working of pitch holes by FR® process resists sidebar fatigue.

The Link-Belt® FR® process treats the critical areas around sidebar holes where cracks most often develop. After heat-treatment, precision-ground carbide balls are pressed through the pitch holes to induce controlled residual compressive stress. This process, which helps fight fatigue, results in holes of exacting dimension with a life-extending finish and greater bearing area.



Shot-peening for extended roller life.

To help FR® roller chain resist the effects of sprocket tooth impact, each roller is shot-peened. In this process, thousands of small, specific diameter steel pellets bombard the roller surface at high velocity, cold-working the metal and increasing fatigue resistance.



Pre-stressed bearing surfaces for uniform loading.

To assure uniform load distribution and minimize initial elongation, all bearing surfaces of multiple-strand Link-Belt FR roller chain are pre-stressed under precisely controlled conditions. This cold-works the joint bearing surfaces. Plus it establishes a balance of stresses throughout all chain members. Pre-stressing also imparts residual stresses to significantly improve fatigue resistance.

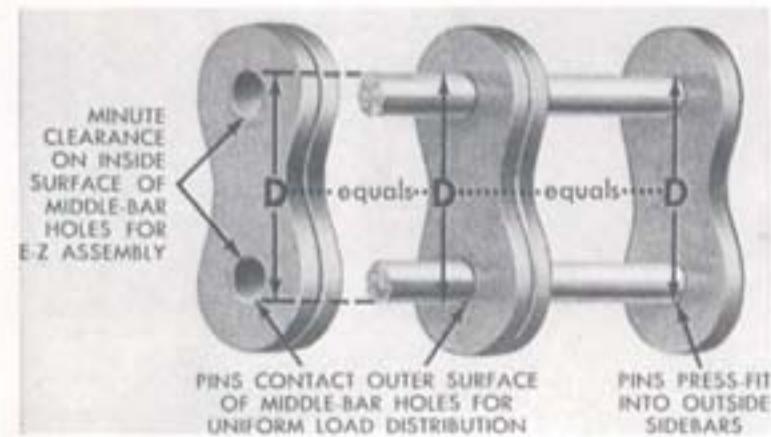
Precise heat-treat control for optimum uniformity and reliability.

Using advanced computer controlled furnaces, Link-Belt roller chain components undergo individually tailored heat-treating processes. This assures each component will display optimum resistance to the assaults of bending, shear, wear, impact and tensile loads. Each joint part is heat-treated to achieve precise control of through hardening or case hardness, case depth and core strength.

Each joint part is then precision ground to exacting cylindrical tolerance. The result is the industry's toughest chain with the uniformity and reliability that heavy-duty service demands.



HIGHER MANUFACTURING AND LUBRICATION STANDARDS.



Most bushings, rollers, rivets and pins for the Link-Belt® FR® chain are manufactured using a cold forming process. Cold forming imparts to the metal a more refined and homogeneous grain structure. Combined with specific heat-treating processes, this results in improved mechanical and fatigue properties, as well as higher wear resistance.

What's more, cold forming helps us reduce scrap and improve dimensional consistency. That eliminates the need for many secondary manufacturing operations, resulting in better components at overall lower costs to you.

As for lubrication, each oil field roller chain assembly is submerged in a hot oil bath, assuring thorough penetration of lubricant to all working surfaces and improved chain protection during storage.

Patented "E-Z Assembly™" feature speeds assembly and disassembly.

Downtime can be disastrous on a drilling rig. Which is why our exclusive "E-Z Assembly" feature rates so high with rig operators on shore and off. It's easy to cut or connect chain at any pin link. Yet there's no sacrifice in load distribution or measurable loss in performance or durability. You get full load carrying capacity across the entire width of the chain.

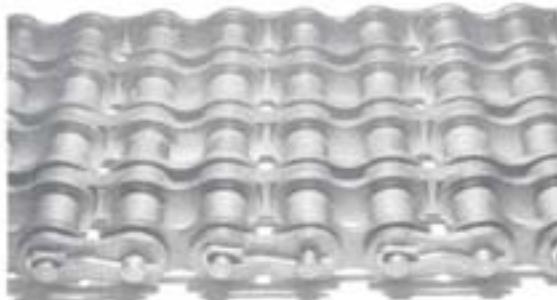
Exclusive "Shepherd's Crook™" cotters stay snug, last longer.

Heat-treated Shepherd's Crook cotters feature increased shear strength over standard non-heat-treated cotters. The unique contour is specifically designed to stay firmly in place. Plus, they resist fatigue failure, even under conditions of severe vibration, impact or shock.

Single Strand Chain



Multiple Strand Chain



Chain Parts



Roller link



Press-fit connecting link for RC60 and larger



Offset link



Slip-fit connecting link for chains thru RC60



Two-pitch offset assembly

1. WARNING

To avoid personal injury or property damage, persons connecting or disconnecting chain and other personnel in the vicinity must:

- Always lock out equipment power switches before removing or installing chains
- Always use safety glasses to protect eyes
- Wear protective clothing, gloves and safety shoes
- Support the chain to prevent uncontrolled movement of the chain and parts
- Maintain tools in proper condition and assure their proper use. Use of pressing equipment is recommended
- Do not attempt to connect or disconnect chain unless chain construction is clearly known and understood, including the correct direction for pin/nut removal or insertion
- Use subassemblies from the original chain manufacturer only for rework and not individual components

- Damaged chain may have been overloaded and yielded, and therefore it should not be reworked

APPLICATION OF ROLLER CHAIN

Roller chain is a versatile and efficient means of power transmission if it is maintained and selected properly. Its life, however, could be shortened greatly if the chain is repaired in the field and/or improperly installed. In fact, in certain maintenance and repair operations, there can be physical injury incurred by personnel if they do not follow certain safety precautions.

Although we show average ultimate strength data for roller chain in this catalog, chains are never applied at their ultimate strength. Instead, they are applied at working loads based on horsepower tables, and these are usually much less than half the ultimate strength.

Unusual operating environments and conditions, lubrication requirements, loading supports and other external influences can materially affect the proper application of the roller chains represented.

It is recommended that designs and requirements be reviewed with the Rexnord Corporation, Link-Belt Chain Division, whenever roller chain applications require a high level of performance, operating conditions are difficult, or where there is a potential hazard involved in the case of a malfunction of the equipment on which the product is applied.

Rexnord Corporation, Link-Belt Chain Division, application engineering services are available to help ensure proper selection or to review any areas where users of Link-Belt roller chain may have questions or concern.

DESIGNS, DIMENSIONS AND WEIGHTS

Because we are constantly improving our products, the designs, dimensions and weights shown in our catalogs, while sufficiently accurate for most purposes, are subject to variation. When extreme accuracy is required, additional information and certification will be provided upon request, after receipt of order.

LINK-BELT® FR® OIL FIELD ROLLER CHAIN

Single and double strand chains

Chain Ordering Information

The following description of Link-Belt roller chain nomenclature will assist you when ordering.



(SU) Super Ultimate: SU series chains differ from standard roller chains in increased sidebar thickness, through hardened pin material and heat treatment. The result: greater average ultimate tensile strength ratings. Capable of withstanding higher operating and intermittent shock loading without reduction of pin bushing wear life.

(FR) Fatigue Resistant: FR series chains incorporate a series of cold working operations with advanced heat-treating processes resulting in added strength and longer service life for sidebars, pins, rollers and bushings.

(EW) Shepherd's Crook Cotter: EW designates those chains equipped with the exclusive Link-Belt Shepherd's Crook Cotter. Uniquely engineered to stay firmly in place with increased shear strength over standard non-heat-treated cotters.

Note: Dimensions shown are typical. Consult Link-Belt engineering when applications require close tolerances.

English measure

Link-Belt chain number †	Pitch, inches	Average ultimate strength, pounds	Weight per foot, pounds	Dimensions, inches							
				A	B	C	D	E	F	G	H
Single Strand											
RC 35*	.375	2,100	.22	.24	.32	.141	.201	.19	.29	.34	.05
RC 40*	.500	4,100	.41	.32	.39	.156	.31	.31	.39	.45	.06
RC 41*	.500	2,000	.27	.27	.35	.141	.31	.25	.31	.38	.05
RC 50*	.625	6,600	.66	.40	.47	.200	.40	.38	.51	.59	.08
RC 60	.750	9,100	1.03	.50	.57	.234	.47	.50	.60	.71	.09
RC 80FR EW	1.000	15,200	1.69	.63	.74	.312	.63	.63	.75	.91	.13
RC 100FR EW	1.250	26,500	2.58	.76	.89	.375	.75	.75	.97	1.13	.16
RC 120FR EW	1.500	38,100	3.75	.96	1.13	.437	.88	1.00	1.13	1.38	.19
RC 121FR EW	1.500	38,100	3.00	.83	1.00	.437	.88	.75	1.13	1.38	.19
RC 140FR EW	1.750	50,000	4.66	1.02	1.21	.500	1.00	1.00	1.31	1.56	.22
RC 160FR EW	2.000	68,500	6.50	1.23	1.41	.562	1.13	1.25	1.56	1.81	.25
RC 180FR EW	2.250	86,000	9.06	1.39	1.56	.687	1.41	1.41	1.75	2.06	.28
RC 200FR	2.500	106,000	11.10	1.54	1.89	.781	1.56	1.50	1.94	2.31	.31
RC 240FR	3.000	132,200	16.70	1.85	2.20	.937	1.88	1.88	2.44	2.81	.38
RC 60H	.750	9,600	1.20	.56	.64	.234	.47	.50	.60	.71	.13
RC 80SUFR EW	1.000	17,500	1.90	.69	.81	.312	.63	.63	.75	.91	.16
RC 100SUFR EW	1.250	29,000	2.80	.83	.95	.375	.75	.75	.97	1.13	.19
RC 120SUFR EW	1.500	41,000	4.00	1.02	1.19	.437	.88	1.00	1.13	1.38	.22
RC 140SUFR EW	1.750	56,000	5.40	1.08	1.27	.500	1.00	1.00	1.31	1.56	.25
RC 160SUFR EW	2.000	70,000	7.00	1.29	1.47	.562	1.13	1.25	1.56	1.81	.28
RC 264SUFR	2.500	115,000	12.40	1.67	2.01	.875	1.56	1.50	1.94	2.31	.38

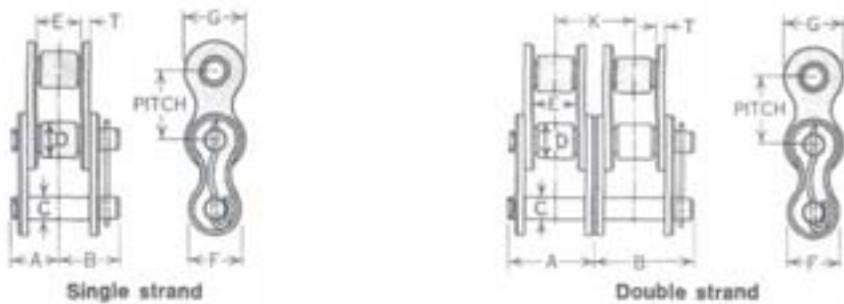
Double Strand

RC 35-2*	.375	4,200	.43	.43	.51	.141	.201	.19	.29	.34	.399	.05
RC 40-2*	.500	8,200	.80	.50	.67	.156	.31	.31	.39	.45	.566	.06
RC 50-2*	.625	13,200	1.29	.76	.83	.200	.40	.38	.51	.59	.713	.08
RC 60-2*	.750	18,200	2.02	.94	1.03	.234	.47	.50	.60	.71	.897	.09
RC 80FR EW-2	1.000	30,400	3.32	1.21	1.30	.312	.63	.63	.75	.91	1.153	.13
RC 100FR EW-2	1.250	53,000	5.09	1.46	1.59	.375	.75	.75	.97	1.13	1.408	.16
RC 120FR EW-2	1.500	76,200	7.40	1.84	2.02	.437	.88	1.00	1.13	1.38	1.789	.19
RC 121FR EW-2	1.500	76,200	6.00	1.60	1.77	.437	.88	.75	1.13	1.38	1.539	.19
RC 140FR EW-2	1.750	100,000	9.20	1.98	2.17	.500	1.00	1.00	1.31	1.56	1.924	.22
RC 160FR EW-2	2.000	137,000	12.85	2.38	2.56	.562	1.13	1.25	1.56	1.81	2.305	.25
RC 180FR EW-2	2.250	172,000	17.97	2.69	2.86	.687	1.41	1.41	1.75	2.06	2.592	.28
RC 200FR-2	2.500	212,000	21.81	2.96	3.31	.781	1.56	1.50	1.94	2.31	2.817	.31
RC 240FR-2	3.000	264,400	33.04	3.58	3.93	.937	1.88	1.88	2.44	2.81	3.458	.38
RC 60H-2	.750	19,200	2.40	1.07	1.15	.234	.47	.50	.60	.71	1.028	.13
RC 80SUFR EW-2	1.000	35,000	3.80	1.34	1.43	.312	.63	.63	.75	.91	1.283	.16
RC 100SUFR EW-2	1.250	58,000	5.60	1.59	1.72	.375	.75	.75	.97	1.13	1.539	.19
RC 120SUFR EW-2	1.500	82,000	8.00	1.97	2.16	.437	.88	1.00	1.13	1.38	1.924	.22
RC 140SUFR EW-2	1.750	112,000	10.80	2.11	2.30	.500	1.00	1.00	1.31	1.56	2.055	.25
RC 160SUFR EW-2	2.000	140,000	14.00	2.50	2.68	.562	1.13	1.25	1.56	1.81	2.436	.28
RC 264SUFR-2	2.500	270,000	24.80	3.22	3.57	.866	1.56	1.50	1.94	2.31	3.083	.38

* Furnished in riveted type only.

† Rollerless chain. Dimension shown is bushing diameter.

† All chains normally carried in stock are cottered type unless otherwise noted. Riveted chains also available.



Metric measure

Link-Belt chain number †	Pitch, millimeters	Average ultimate strength, newtons	Weight per meter, kilograms	Dimensions, millimeters							
				A	B	C	D	E	F	G	K
Single Strand											
RC 35*	9.53	9,341	1.3	6.1	8.1	3.58	5.14	4.8	7.4	8.6	1.3
RC 40*	12.70	18,238	1.6	8.1	9.9	3.96	7.9	7.9	9.9	11.4	1.5
RC 41*	12.70	8,896	1.4	6.9	8.9	3.58	7.9	6.4	7.9	9.7	1.3
RC 50*	15.88	29,358	1.0	10.2	11.9	5.08	10.2	9.7	13.0	15.0	2.0
RC 60	19.05	40,479	1.5	12.7	14.5	5.94	11.9	12.7	15.2	18.0	2.3
RC 80FR EW	25.40	67,613	2.5	16.0	18.8	7.93	16.0	16.0	19.1	23.1	3.3
RC 100FR EW	31.75	117,878	3.8	19.3	22.6	9.53	19.1	19.1	24.6	28.7	4.1
RC 120FR EW	38.10	169,477	5.6	24.4	28.7	11.10	22.4	25.4	28.7	35.1	4.8
RC 121FR EW	38.10	169,477	4.5	21.1	25.4	11.10	22.4	19.1	28.7	35.1	4.8
RC 140FR EW	44.45	222,411	6.9	25.9	30.7	12.70	25.4	25.4	33.3	39.6	5.6
RC 160FR EW	50.80	304,703	9.7	31.2	35.8	14.28	28.7	31.8	39.6	46.0	6.4
RC 180FR EW	57.15	382,547	13.5	35.3	39.6	17.45	35.8	35.8	44.5	52.3	7.1
RC 200FR	63.50	471,512	16.5	39.1	48.0	19.84	39.6	38.1	49.3	58.7	7.9
RC 240FR	76.20	588,055	24.9	47.0	55.9	23.80	47.8	47.8	62.0	71.4	9.7
RC 60H	19.05	42,703	1.8	14.2	16.3	5.94	11.9	12.7	15.2	18.0	3.3
RC 80SUFR EW	25.40	77,844	2.8	17.5	20.6	7.93	16.0	16.0	19.1	23.1	4.1
RC 100SUFR EW	31.75	128,998	4.2	21.1	24.1	9.53	19.1	19.1	24.6	28.7	4.8
RC 120SUFR EW	38.10	182,377	6.0	25.9	30.2	11.10	22.4	25.4	28.7	35.1	5.6
RC 140SUFR EW	44.45	249,100	8.0	27.4	32.3	12.70	25.4	25.4	33.3	39.6	6.4
RC 160SUFR EW	50.80	311,376	10.4	32.8	37.3	14.28	28.7	31.8	39.6	46.0	7.1
RC 264SUFR	63.50	600,510	18.5	42.4	51.1	22.00	39.6	38.1	49.3	58.7	9.7

Double Strand

RC 35-2*	9.53	18,682	.5	10.9	13.0	3.58	5.14	4.8	7.4	8.6	10.14	1.3
RC 40-2*	12.70	36,475	1.2	15.2	17.0	3.96	7.9	7.9	9.9	11.4	14.38	1.5
RC 50-2*	15.88	58,717	1.9	19.3	21.1	5.08	10.2	9.7	13.0	15.0	18.11	2.0
RC 60-2*	19.05	80,958	3.0	23.9	26.2	5.94	11.9	12.7	15.2	18.0	22.78	2.3
RC 80FR EW-2	25.40	135,226	4.9	30.7	33.0	7.93	16.0	16.0	19.1	23.1	29.29	3.3
RC 100FR EW-2	31.75	235,756	7.6	37.1	40.4	9.53	19.1	19.1	24.6	28.7	35.76	4.1
RC 120FR EW-2	38.10	338,955	11.0	46.7	51.3	11.10	22.4	25.4	28.7	35.1	45.44	4.8
RC 121FR EW-2	38.10	338,955	8.9	40.6	45.0	11.10	22.4	19.1	28.7	35.1	39.09	4.8
RC 140FR EW-2	44.45	444,822	13.7	50.3	55.1	12.70	25.4	25.4	33.3	39.6	48.87	5.6
RC 160FR EW-2	50.80	609,406	19.1	60.5	65.0	14.28	28.7	31.8	39.6	46.0	58.55	6.4
RC 180FR EW-2	57.15	765,094	26.7	68.3	72.6	17.45	35.8	35.8	44.5	52.3	65.84	7.1
RC 200FR-2	63.50	943,023	32.5	75.2	84.1	19.84	39.6	38.1	49.3	58.7	71.55	7.9
RC 240FR-2	76.20	1,176,110	49.2	90.9	99.8	23.80	47.8	47.8	62.0	71.4	87.83	9.7
RC 60H-2	19.05	85,406	3.6	27.2	29.2	5.94	11.9	12.7	15.2	18.0	26.11	3.3
RC 80SUFR EW-2	25.40	155,688	5.7	34.0	36.3	7.93	16.0	16.0	19.1	23.1	32.84	4.1
RC 100SUFR EW-2	31.75	257,997	8.3	40.4	43.7	9.53	19.1	19.1	24.6	28.7	39.09	4.8
RC 120SUFR EW-2	38.10	364,754	11.9	50.0	54.9	11.10	22.4	25.4	28.7	35.1	48.87	5.6
RC 140SUFR EW-2	44.45	498,201	16.1	53.6	58.4	12.70	25.4	25.4	33.3	39.6	52.20	6.4
RC 160SUFR EW-2	50.80	622,751	20.8	63.5	68.1	14.28	28.7	31.8	39.6	46.0	61.87	7.1
RC 264SUFR-2	63.50	1,201,020	36.9	81.8	90.7	22.00	39.6	38.1	49.3	58.7	78.31	9.7

* Furnished in riveted type only.

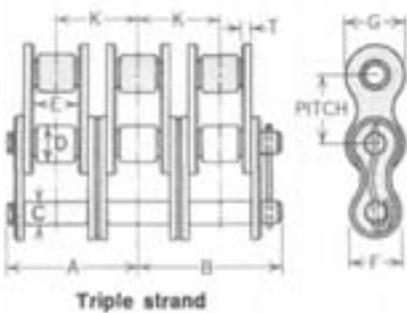
† Rollerless chain. Dimension shown is bushing diameter.

† All chains normally carried in stock are cottered type unless otherwise noted. Riveted chains also available.

LINK-BELT® FR® OIL FIELD ROLLER CHAIN

Triple and quadruple strand chains

Note: Dimensions shown are typical. Consult Link-Belt engineering when applications require close tolerances.



English measure

Link-Belt chain number †	Pitch, inches	Average ultimate strength, pounds	Weight per foot, pounds	Dimensions, inches							
				A	B	C	D	E	F	G	K

Triple Strand

RC 35-3*	.375	6,300	.64	.63	.71	.141	.201	.19	.29	.34	.399	.05
RC 40-3*	.500	12,300	1.19	.89	.95	.156	.31	.31	.39	.45	.566	.06
RC 50-3*	.625	19,800	1.91	1.12	1.19	.200	.40	.38	.51	.59	.713	.08
RC 60-3	.750	27,300	3.02	1.39	1.47	.234	.47	.50	.60	.71	.897	.09
RC 80FR EW-3	1.000	45,600	4.95	1.78	1.87	.312	.63	.63	.75	.91	1.153	.13
RC 100FR EW-3	1.250	79,500	7.61	2.16	2.29	.375	.75	.75	.97	1.13	1.408	.16
RC 120FR EW-3	1.500	114,300	11.05	2.74	2.91	.437	.88	1.00	1.13	1.38	1.789	.19
RC 121FR EW-3	1.500	114,300	9.00	2.37	2.53	.437	.88	.75	1.13	1.38	1.539	.19
RC 140FR EW-3	1.750	150,000	13.75	2.94	3.13	.500	1.00	1.00	1.31	1.56	1.924	.22
RC 160FR EW-3	2.000	205,500	19.20	3.52	3.71	.562	1.13	1.25	1.56	1.81	2.305	.25
RC 180FR EW-3	2.250	258,000	26.88	3.98	4.15	.687	1.41	1.41	1.75	2.06	2.592	.28
RC 200FR-3	2.500	318,000	32.51	4.38	4.73	.781	1.56	1.50	1.94	2.31	2.817	.31
RC 240FR-3	3.000	396,600	49.37	5.31	5.65	.937	1.88	1.88	2.44	2.81	3.458	.38
RC 60H-3	.750	28,800	3.60	1.57	1.65	.234	.47	.50	.60	.71	1.028	.13
RC 80SUFR EW-3	1.000	52,500	5.70	1.97	2.06	.312	.63	.63	.75	.91	1.283	.16
RC 100SUFR EW-3	1.250	87,000	8.40	2.36	2.49	.375	.75	.75	.97	1.13	1.539	.19
RC 120SUFR EW-3	1.500	123,000	12.00	2.94	3.11	.437	.88	1.00	1.13	1.38	1.924	.22
RC 140SUFR EW-3	1.750	168,000	16.20	3.13	3.32	.500	1.00	1.00	1.31	1.56	2.055	.25
RC 160SUFR EW-3	2.000	210,000	21.00	3.71	3.89	.562	1.13	1.25	1.56	1.81	2.436	.28
RC 264SUFR-3	2.500	405,000	37.20	4.78	5.12	.866	1.56	1.50	1.94	2.31	3.083	.38

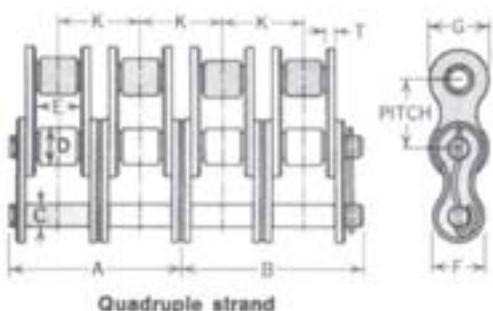
Quadruple Strand

RC 35-4*	.375	8,400	.85	.83	.91	.141	.201	.19	.29	.34	.399	.05
RC 40-4*	.500	16,400	1.58	1.17	1.23	.156	.31	.31	.39	.45	.566	.06
RC 50-4*	.625	26,400	2.53	1.47	1.54	.200	.40	.38	.51	.59	.713	.08
RC 60-4	.750	36,400	4.02	1.84	1.92	.234	.47	.50	.60	.71	.897	.09
RC 80FR EW-4	1.000	60,800	6.58	2.35	2.44	.312	.63	.63	.75	.91	1.153	.13
RC 100FR EW-4	1.250	106,000	10.13	2.86	2.99	.375	.75	.75	.97	1.13	1.408	.16
RC 120FR EW-4	1.500	152,400	14.70	3.63	3.81	.437	.88	1.00	1.13	1.38	1.789	.19
RC 121FR EW-4	1.500	152,400	12.00	3.14	3.30	.437	.88	.75	1.13	1.38	1.539	.19
RC 140FR EW-4	1.750	200,000	18.28	3.90	4.09	.500	1.00	1.00	1.31	1.56	1.924	.22
RC 160FR EW-4	2.000	274,000	25.55	4.67	4.86	.562	1.13	1.25	1.56	1.81	2.305	.25
RC 180FR EW-4	2.250	344,000	35.79	5.28	5.45	.687	1.41	1.41	1.75	2.06	2.592	.28
RC 200FR-4	2.500	424,000	43.21	5.80	6.14	.781	1.56	1.50	1.94	2.31	2.817	.31
RC 240FR-4	3.000	528,800	65.70	7.04	7.38	.937	1.88	1.88	2.44	2.81	3.458	.38
RC 60H-4	.750	38,400	4.80	2.08	2.16	.234	.47	.50	.60	.71	1.028	.13
RC 80SUFR EW-4	1.000	70,000	7.60	2.61	2.70	.312	.63	.63	.75	.91	1.283	.16
RC 100SUFR EW-4	1.250	116,000	11.20	3.13	3.26	.375	.75	.75	.97	1.13	1.539	.19
RC 120SUFR EW-4	1.500	164,000	16.00	3.90	4.07	.437	.88	1.00	1.13	1.38	1.924	.22
RC 140SUFR EW-4	1.750	224,000	21.60	4.15	4.34	.500	1.00	1.00	1.31	1.56	2.055	.25
RC 160SUFR EW-4	2.000	280,000	28.00	4.92	5.11	.562	1.13	1.25	1.56	1.81	2.436	.28
RC 264SUFR-4	2.500	540,000	49.60	6.33	6.67	.866	1.56	1.50	1.94	2.31	3.083	.38

* Furnished in riveted type only.

† Rollerless chain. Dimension shown is bushing diameter.

‡ All chains normally carried in stock are cottered type unless otherwise noted. Riveted chains also available.



Metric measure

Link-Bell chain number †	Pitch, millimeters	Average ultimate strength, newtons	Weight per meter, kilograms	Dimensions, millimeters							
				A	B	C	D	E	F	G	K

Triple Strand

RC 35-3*	9.53	28,072	1.0	16.0	18.0	3.58	5.11	4.8	7.4	8.6	10.14	1.3
RC 40-3*	12.70	54,713	1.8	22.6	24.1	3.96	7.9	7.9	9.9	11.4	14.38	1.5
RC 50-3*	15.88	88,075	2.8	28.5	30.2	5.08	10.2	9.7	13.0	15.0	18.11	2.0
RC 60-3	19.05	121,436	4.5	35.3	37.3	5.94	11.9	12.7	15.2	18.0	22.78	2.3
RC 80FR EW-3	25.40	202,839	7.4	45.2	47.5	7.93	16.0	16.0	19.1	23.1	29.29	3.3
RC 100FR EW-3	31.75	353,634	11.3	54.9	58.2	9.53	19.1	19.1	24.6	28.7	35.76	4.1
RC 120FR EW-3	38.10	508,432	16.4	69.6	73.9	11.10	22.4	25.4	28.7	35.1	45.44	4.8
RC 121FR EW-3	38.10	508,432	13.4	60.2	64.3	11.10	22.4	19.1	28.7	35.1	39.09	4.8
RC 140FR EW-3	44.45	667,233	20.5	74.7	79.5	12.70	25.4	25.4	33.3	39.6	48.87	5.6
RC 160FR EW-3	50.80	914,410	28.6	89.4	94.2	14.28	28.7	31.8	39.6	46.0	58.55	6.4
RC 180FR EW-3	57.15	1,147,641	40.0	101.1	105.4	17.45	35.8	35.8	44.5	52.3	65.84	7.1
RC 200FR-3	63.50	1,414,535	48.4	111.3	120.1	19.84	39.6	38.1	49.3	58.7	71.55	7.9
RC 240FR-3	76.20	1,764,165	73.5	134.9	143.5	23.80	47.8	47.8	62.0	71.4	87.83	9.7
RC 60H-3	19.05	128,109	5.4	39.9	41.9	5.94	11.9	12.7	15.2	18.0	26.11	3.3
RC 80SUFR EW-3	25.40	233,532	8.5	50.0	52.3	7.93	16.0	16.0	19.1	23.1	32.84	4.1
RC 100SUFR EW-3	31.75	386,955	12.5	59.9	63.3	9.53	19.1	19.1	24.6	28.7	39.09	4.8
RC 120SUFR EW-3	38.10	547,131	17.9	74.7	79.0	11.10	22.4	25.4	28.7	35.1	48.87	5.6
RC 140SUFR EW-3	44.45	747,301	24.1	79.5	84.3	12.70	25.4	25.4	33.3	39.6	52.20	6.4
RC 160SUFR EW-3	50.80	934,127	31.3	94.2	98.8	14.28	28.7	31.8	39.6	46.0	61.87	7.1
RC 264SUFR-3	63.50	1,801,530	55.4	121.4	130.1	22.00	39.6	38.1	49.3	58.7	78.31	9.7

Quadruple Strand

RC 35-4*	9.53	37,363	1.3	21.1	23.1	3.58	5.11	4.8	7.4	8.6	10.14	1.3
RC 40-4*	12.70	72,951	2.4	29.7	31.2	3.96	7.9	7.9	9.9	11.4	14.38	1.5
RC 50-4*	15.88	117,433	3.8	37.3	39.1	5.08	10.2	9.7	13.0	15.0	18.11	2.0
RC 60-4	19.05	161,915	6.0	46.7	48.8	5.94	11.9	12.7	15.2	18.0	22.78	2.3
RC 80FR EW-4	25.40	270,452	9.8	59.7	62.0	7.93	16.0	16.0	19.1	23.1	29.29	3.3
RC 100FR EW-4	31.75	471,512	15.1	72.6	76.0	9.53	19.1	19.1	24.6	28.7	35.76	4.1
RC 120FR EW-4	38.10	677,909	21.9	92.2	96.8	11.10	22.4	25.4	28.7	35.1	45.44	4.8
RC 121FR EW-4	38.10	677,909	17.9	79.8	83.8	11.10	22.4	19.1	28.7	35.1	39.09	4.8
RC 140FR EW-4	44.45	889,644	27.2	99.1	103.9	12.70	25.4	25.4	33.3	39.6	48.87	5.6
RC 160FR EW-4	50.80	1,218,833	38.0	118.6	123.4	14.28	28.7	31.8	39.6	46.0	58.55	6.4
RC 180FR EW-4	57.15	1,530,188	53.3	134.1	138.4	17.45	35.8	35.8	44.5	52.3	65.84	7.1
RC 200FR-4	63.50	1,886,046	64.3	147.3	156.0	19.84	39.6	38.1	49.3	58.7	71.55	7.9
RC 240FR-4	75.20	2,352,220	97.8	178.8	187.5	23.80	47.8	47.8	62.0	71.4	87.83	9.7
RC 60H-4	19.05	170,812	7.1	52.8	54.9	5.94	11.9	12.7	15.2	18.0	26.11	3.3
RC 80SUFR EW-4	25.40	311,376	11.3	66.3	68.6	7.93	16.0	16.0	19.1	23.1	32.84	4.1
RC 100SUFR EW-4	31.75	515,994	16.7	79.5	82.8	9.53	19.1	19.1	24.6	28.7	39.09	4.8
RC 120SUFR EW-4	38.10	729,508	23.8	99.1	103.4	11.10	22.4	25.4	28.7	35.1	48.87	5.6
RC 140SUFR EW-4	44.45	996,402	32.1	105.4	110.2	12.70	25.4	25.4	33.3	39.6	52.20	6.4
RC 160SUFR EW-4	50.80	1,245,502	41.7	125.0	130.0	14.28	28.7	31.8	39.6	46.0	61.87	7.1
RC 264SUFR-4	63.50	2,402,040	73.8	160.8	169.4	22.00	39.6	38.1	49.3	58.7	78.31	9.7

* Furnished in riveted type only.

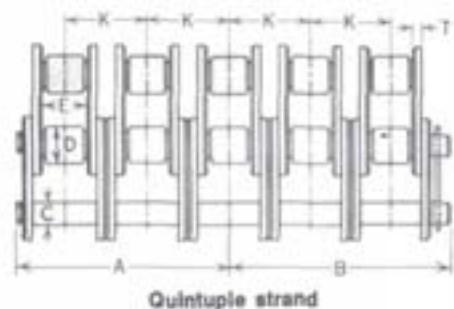
† Rollerless chain. Dimension shown is bushing diameter.

‡ All chains normally carried in stock are cottered type unless otherwise noted. Riveted chains also available.

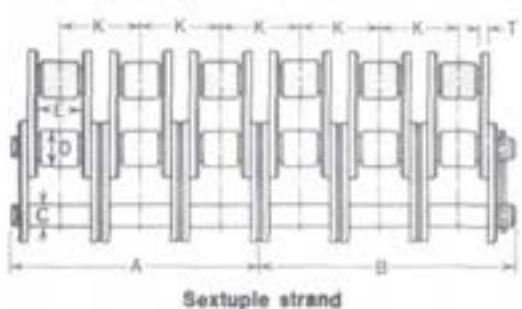
LINK-BELT® FR® OIL FIELD ROLLER CHAIN

Quintuple, sextuple, and octuple strand chains

Note: Dimensions shown are typical. Consult Link-Belt Engineering when applications require close tolerances.



Quintuple strand



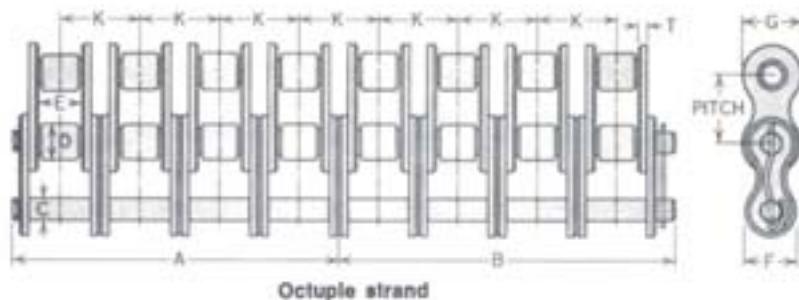
Sextuple strand



English measure

Link-Belt chain number †	Pitch, inches	Average ultimate strength, pounds	Weight per foot, pounds	Dimensions, inches								
				A	B	C	D	E	F	G	K	T
Quintuple Strand												
RC 60-5	.750	45,500	5.02	2.28	2.36	.234	.47	.50	.60	.71	.897	.09
RC 80FR EW-5	1.000	76,000	8.21	2.92	3.03	.312	.63	.63	.75	.91	1.153	.13
RC 100FR EW-5	1.250	132,500	12.65	3.56	3.69	.375	.75	.75	.97	1.13	1.408	.16
RC 120FR EW-5	1.500	190,500	18.35	4.52	4.70	.437	.88	1.00	1.13	1.38	1.789	.19
RC 140FR EW-5	1.750	250,000	22.85	4.86	5.05	.500	1.00	1.00	1.31	1.56	1.924	.22
RC 160FR EW-5	2.000	342,500	31.90	5.82	6.00	.562	1.13	1.25	1.56	1.81	2.305	.25
RC 120 SUFR EW-5	1.500	205,500	20.00	4.86	5.03	.437	.88	1.00	1.13	1.38	1.924	.22
Sextuple Strand												
RC 60-6	.750	54,600	6.02	2.69	2.85	.234	.47	.50	.60	.71	.897	.09
RC 80FR EW-6	1.000	91,200	9.84	3.50	3.61	.312	.63	.63	.75	.91	1.153	.13
RC 100FR EW-6	1.250	159,000	15.17	4.26	4.39	.375	.75	.75	.97	1.13	1.408	.16
RC 120FR EW-6	1.500	228,600	22.00	5.42	5.59	.437	.88	1.00	1.13	1.38	1.789	.19
RC 121FR EW-6	1.500	228,600	18.00	4.68	4.83	.437	.88	.75	1.13	1.38	1.539	.19
RC 140FR EW-6	1.750	300,000	27.40	5.82	6.01	.500	1.00	1.00	1.31	1.56	1.924	.22
RC 160FR EW-6	2.000	411,000	38.25	6.97	7.15	.562	1.13	1.25	1.56	1.81	2.305	.25
RC 120SUFR EW-6	1.500	246,000	24.00	5.81	6.00	.437	.88	1.00	1.13	1.38	1.924	.22
RC 140SUFR EW-6	1.750	336,000	32.40	6.20	6.39	.500	1.00	1.00	1.31	1.56	2.055	.25
RC 160SUFR EW-6	2.000	420,000	42.00	7.35	7.54	.562	1.13	1.25	1.56	1.81	2.436	.28
Octuple Strand												
RC 60-8	.750	72,800	8.30	3.62	3.70	.234	.47	.50	.60	.71	.897	.09
RC 80FR EW-8	1.000	121,600	13.50	4.65	4.71	.312	.63	.63	.75	.91	1.153	.13
RC 100FR EW-8	1.250	212,000	21.60	5.66	5.79	.375	.75	.75	.97	1.13	1.408	.16
RC 120FR EW-8	1.500	304,800	29.80	7.20	7.38	.437	.88	1.00	1.13	1.38	1.789	.19
RC 140FR EW-8	1.750	400,000	37.20	7.74	7.95	.500	1.00	1.00	1.31	1.56	1.924	.22
RC 160FR EW-8	2.000	548,000	50.50	9.28	9.45	.562	1.13	1.25	1.56	1.81	2.305	.25
RC 120SUFR EW-8	1.500	328,000	32.00	7.24	7.93	.437	.88	1.00	1.13	1.38	1.924	.22
RC 140SUFR EW-8	1.750	448,000	43.20	8.25	8.44	.500	1.00	1.00	1.31	1.56	2.055	.25
RC 160SUFR EW-8	2.000	560,000	56.00	9.78	9.98	.562	1.13	1.25	1.56	1.81	2.436	.28

† All chains normally carried in stock are colfered type. Riveted chains also available.



Octuple strand

Metric measure

Link-Belt chain number †	Pitch, millimeters	Average ultimate strength, newtons	Weight per meter, kilograms	Dimensions, millimeters							
				A	B	C	D	E	F	G	K

Quintuple Strand

RC 60-5	19.05	202,394	7.5	57.9	59.9	5.94	11.9	12.7	15.2	18.0	22.78	2.3
RC 80FIR EW-5	25.40	338,065	12.2	74.2	77.0	7.93	16.0	16.0	19.1	23.1	29.29	3.3
RC 100FIR EW-5	31.75	589,389	18.8	90.4	93.7	9.53	19.1	19.1	24.6	28.7	35.76	4.1
RC 120FIR EW-5	38.10	847,386	27.3	114.8	119.4	11.10	22.4	25.4	28.7	35.1	45.44	4.8
RC 140FIR EW-5	44.45	1,112,056	34.0	123.4	128.3	12.70	25.4	25.4	33.3	39.6	48.87	5.6
RC 160FIR EW-5	50.80	1,523,516	47.5	147.8	152.4	14.28	28.7	31.8	39.6	46.0	58.55	6.4
RC 120SUFR EW-5	38.10	911,886	29.8	123.4	127.8	11.10	22.4	25.4	28.7	35.1	48.87	5.6

Sextuple Strand

RC 60-6	19.05	242,873	9.0	68.3	72.4	5.94	11.9	12.7	15.2	18.0	22.78	2.3
RC 80FIR EW-6	25.40	405,678	14.6	88.9	91.7	7.93	16.0	16.0	19.1	23.1	29.29	3.3
RC 100FIR EW-6	31.75	707,267	22.6	108.2	111.5	9.53	19.1	19.1	24.6	28.7	35.76	4.1
RC 120FIR EW-6	38.10	1,016,864	32.7	137.7	142.0	11.10	22.4	25.4	28.7	35.1	45.44	4.8
RC 121FIR EW-6	38.10	1,016,864	26.8	118.9	122.7	11.10	22.4	19.1	28.7	35.1	39.09	4.8
RC 140FIR EW-6	44.45	1,334,467	40.8	147.8	152.7	12.70	25.4	25.4	33.3	39.6	48.87	5.6
RC 160FIR EW-6	50.80	1,828,219	56.9	177.0	181.6	14.28	28.7	31.8	39.6	46.0	58.55	6.4
RC 120SUFR EW-6	38.10	1,094,253	35.7	147.6	152.4	11.10	22.4	25.4	28.7	35.1	48.87	5.6
RC 140SUFR EW-6	44.45	1,494,603	48.2	157.5	162.3	12.70	25.4	25.4	33.3	39.6	52.20	6.4
RC 160SUFR EW-6	50.80	1,868,253	62.5	186.7	191.5	14.28	28.7	31.8	39.6	46.0	61.87	7.1

Octuple Strand

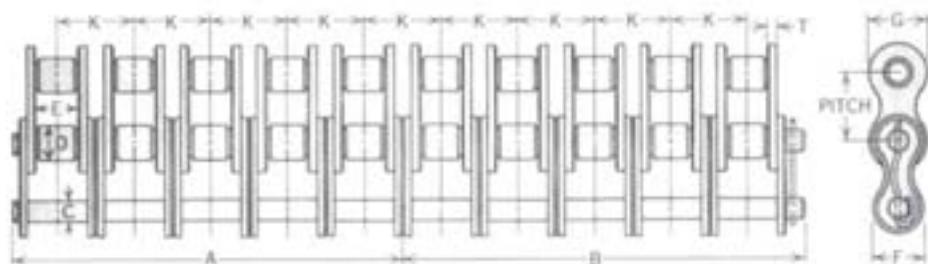
RC 60-8	19.05	323,831	12.4	92.0	94.0	5.94	11.9	12.7	15.2	18.0	22.78	2.3
RC 80FIR EW-8	25.40	540,904	20.1	118.1	119.6	7.93	16.0	16.0	19.1	23.1	29.29	3.3
RC 100FIR EW-8	31.75	943,023	32.1	143.8	147.1	9.53	19.1	19.1	24.6	28.7	35.76	4.1
RC 120FIR EW-8	38.10	1,355,818	44.3	182.9	187.5	11.10	22.4	25.4	28.7	35.1	45.44	4.8
RC 140FIR EW-8	44.45	1,779,289	55.4	196.6	201.9	12.70	25.4	25.4	33.3	39.6	48.87	5.6
RC 160FIR EW-8	50.80	2,437,626	75.1	235.7	240.0	14.28	28.7	31.8	39.6	46.0	58.55	6.4
RC 120SUFR EW-8	38.10	1,459,017	47.6	196.6	201.4	11.10	22.4	25.4	28.7	35.1	48.87	5.6
RC 140SUFR EW-8	44.45	1,992,803	64.3	209.6	214.4	12.70	25.4	25.4	33.3	39.6	52.20	6.4
RC 160SUFR EW-8	50.80	2,491,004	83.3	248.4	253.5	14.28	28.7	31.8	39.6	46.0	61.87	7.1

† All chains normally carried in stock are cottered type. Riveted chains also available.

LINK-BELT® FR® OIL FIELD ROLLER CHAIN

Decouple strand chain

Note: Dimensions shown are typical. Consult Link-Belt engineering when applications require close tolerances.



English measure

Link-Belt chain number †	Pitch, inches	Average ultimate strength, pounds	Weight per foot, pounds	Dimensions, inches								
				A	B	C	D	E	F	G	K	T
RC 60-10	.750	91,000	10.60	4.52	4.60	.234	.47	.50	.60	.71	.897	.09
RC 80FR EW-10	1.000	152,000	17.20	5.81	5.87	.312	.63	.63	.75	.91	1.153	.13
RC 100FR EW-10	1.250	265,000	26.10	7.07	7.20	.375	.75	.75	.97	1.13	1.408	.16
RC 120FR EW-10	1.500	381,000	37.60	8.99	9.16	.437	.88	1.00	1.13	1.38	1.789	.19
RC 140FR EW-10	1.750	500,000	47.00	9.67	9.85	.500	1.00	1.00	1.31	1.56	1.924	.22

† All chains normally carried in stock are cottered type. Riveted chains also available.

Metric measure

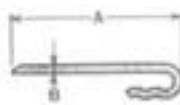
Link-Belt chain number †	Pitch, millimeters	Average ultimate strength, newtons	Weight per meter, kilograms	Dimensions, millimeters								
				A	B	C	D	E	F	G	K	T
RC 60-10	19.05	404,788	15.8	114.8	116.8	5.94	11.9	12.7	15.2	18.0	22.78	2.3
RC 80FR EW-10	25.40	676,130	25.6	147.6	149.1	7.93	16.0	16.0	19.1	23.1	29.29	3.3
RC 100FR EW-10	31.75	1,178,779	38.8	179.6	182.9	9.53	19.1	19.1	24.6	28.7	35.76	4.1
RC 120FR EW-10	38.10	1,694,773	56.0	228.4	232.7	11.10	22.4	25.4	28.7	35.1	45.44	4.8
RC 140FR EW-10	44.45	2,224,111	69.9	245.6	250.2	12.70	25.4	25.4	33.3	39.6	48.87	5.6

† All chains normally carried in stock are cottered type. Riveted chains also available.

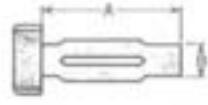
Cotters for FR oil field roller chain

Link-Belt chain number △	Type of cotter	Cotter number	Dimensions, inches		Dimensions, millimeters	
			A	B	A	B
RC 60	RC 60H	3	.38	.08	9.7	2.0
RC 80FR EW	RC 80SUFR EW	1	1.63	.09	41.4	2.3
RC 100FR EW	RC 100SUFR EW	1	2.00	.09	50.8	2.3
RC 120FR EW	RC 120SUFR EW	1	2.25	.12	57.2	3.1
RC 121FR EW		1	2.25	.12	57.2	3.1
RC 140FR EW	RC 140SUFR EW	1	2.63	.12	66.8	3.1
RC 160FR EW	RC 160SUFR EW	1	2.91	.15	73.9	3.8
RC 200FR		2	3.25	.31	81.8	7.9
RC 240FR		2	3.25	.31	81.8	7.9
RC 264SUFR		2	3.25	.31	81.8	7.9

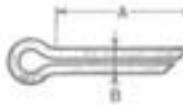
△ Smaller chain sizes are furnished in riveted type only.



SHEPHERD'S CROOK COTTER
TYPE 1



GROOVE PIN COTTER
TYPE 2



SPLIT COTTER
TYPE 3

CHAIN DRIVE LUBRICATION

Lubrication is the most important factor influencing the chain life of a properly designed and installed chain drive. Adequate lubrication can extend the life of a chain many times. Not just the quantity of oil, but the pressure and location of oil spray pipes or nozzles is also important.

To effectively lubricate the chain joints, oil must be directed to the clearances indicated in Fig. 7305 so it can reach all the bearing surfaces in the joint. Oil delivered at position B, Fig. 7302, will be most effective in reaching the bearing surfaces.

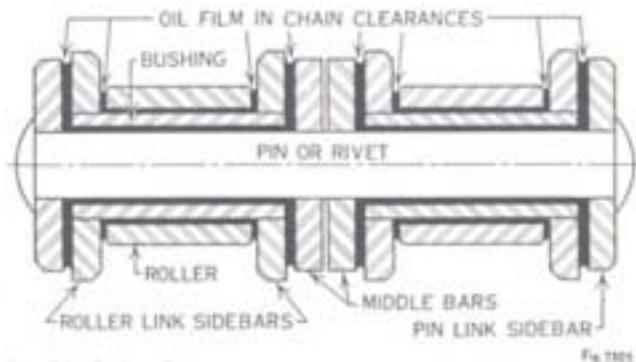


Fig. 7305

Methods of Lubrication

There are three basic methods for lubricating chain: (1) manual or drip, (2) oil-bath (splash) or slinger disc, and (3) pump or forced. Drip or splash lubrication is applicable to some relatively slow running drives found on oil field equipment. For example, the life of some drum drive and other chains on small drilling rigs, which in the past have been manually lubricated, has been extended by the application of drip or oil-bath lubrication. The majority of oil field chain drives are high speed or high load, or a combination of both, and oil pump lubrication is required.

Insufficient Lubrication

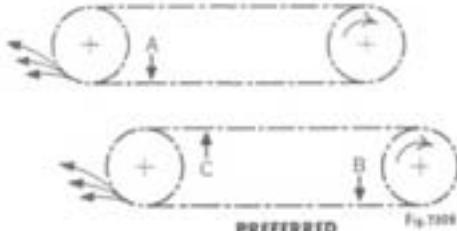
Although it is frequently difficult to measure the exact amount of oil reaching the chain, and to observe the actual oil spray in the area of the chain, it is relatively easy to tell when a chain has not had adequate lubrication.

Inadequate lubrication may be indicated in several ways. The appearance of a red oxide generally results from little or no lubrication. Discoloration of the chain joint also indicates inadequate lubrication. This discoloration is caused by heating of the parts due to increased friction, resulting from inadequate lubrication. In extreme cases, galling or seizing between the pin and bushing may occur. In many cases, proper lubrication will correct these conditions. However, there is a combination of load and speed beyond which it does not seem possible to improve lubrication sufficiently to reduce galling or seizing.

Cooling Effect

An important function of lubrication in high speed drives is the cooling effect of the oil on the chain. The lubricating oil effectively transfers heat from the chain drive to the oil sump and casing where it can be radiated to the surrounding air. In some cases a heat exchanger may be necessary to maintain proper oil temperature.

When oil is introduced close to the point of sprocket entry (Position A, Fig. 7302), it is thrown off almost immediately when the chain passes around the sprocket and very little heat can be absorbed by the oil.



PREFERRED

Rate of Oil Flow

The volume of oil required to lubricate a chain drive depends largely on chain speed. It is also influenced by the amount of heat which must be transferred from the chain to the casing. This heat is a function of the losses which occur in the chain, and is proportional to the amount of power being transferred by the chain drive. In oil field applications where speeds of 1,000 RPM to 1,200 RPM are common with 28 to 32 tooth sprockets, approximately one-half gallon per minute (1,895 litres per minute) per strand of chain is considered a minimum, and larger amounts are frequently used.

Although the oil viscosity and circulation rate are extremely important, it is necessary for the oil to reach the articulating surfaces of the chain. Oil which is dripping gently over a high speed chain drive will not reach the chain joints, it will be blown off onto the casing wall. Obviously, it is necessary that the oil have sufficient pressure and velocity leaving the spray pipe for adequate lubrication. Not only must this oil reach the chain, but it must find its way into the chain joints. A stream of oil that is directed onto the chain roller is not likely to find its way into the joint. Two basic methods of distributing oil across the width of a multiple strand chain have proved successful. One method consists of a pipe with appropriately spaced holes so that the oil is directed to the clearances shown in Fig. 7305. The other method uses a spray nozzle for distributing the oil. If the latter method is used, a flat fishtail spray pattern without excessive atomization of the oil is preferred.

Oil Cleanliness

Oil cleanliness is another important factor in chain lubrication. Frequent oil changes will assure a clean lubricant and long chain life. Obviously, an adequate supply of contaminated oil would not give proper chain life. For this reason, filters are frequently included in the oil line for removing foreign contaminants. Frequently, filters removing any particles larger than 20 mesh (approximately 835 microns) are used either as a full flow or bypass filter. The hazard of a full flow system is that if adequate maintenance is not provided, the filter may become clogged and reduce the amount of oil delivered to the chain. There is evidence that in some locations which are particularly dusty, more adequate filtering of the lubricating oil may be desirable. In such cases, it is quite likely that filters should be provided which would remove particles much finer than 20 mesh. In addition, magnetic filters have been used for removing wear products or other magnetic particles from the oil. If adequate maintenance is available, thorough filtering of the oil would seem to be a very worthwhile investment in terms of extending chain life.

Ambient Air Temperature, degrees F	Ambient Air Temperature, degrees C	S.A.E. Viscosity Number	ISO Viscosity System Grade Identification, ISO VG
20 to 40	-5 to 5	20	46 or 68
40 to 100	5 to 40	30	100
100 to 120	40 to 50	40	150
120 to 140	50 to 60	50	220

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