

RENOLD

bakery

chain



RENOLD

quality rising from experience

Bakery chain industry

RENOLD BAKERY CHAIN

Renold have been producing high performance, quality chain for the bakery industry for over 30 years. Renold were the first within this industry to provide chain for this type of application. A thorough technical knowledge and experience has been gained from working with the major OEMs (including Spooner (Sasib) and APV) and bakeries. Bespoke designs to suit customer requirements can be offered at excellent value, with Renold aftercare.

FUNCTIONS - BAKERY CHAIN

Renold chains are used on:

- Dough-hoist conveyors (inclined dough-lift)
- First provers
- Final provers
- Baking ovens
- Bread coolers
- Ancillary conveyors
- Various adapted transmission chain for auxiliary processes

We also provide:

- Shafts and sprockets relating to bakery machines
- Numerous power transmission systems



KEY FEATURES - CONVEYOR CHAIN

- Correct chain selection is essential for optimum performance. Renold's experienced sales, production and design staff are always available to advise on particular products and applications
- Close control of material tolerances ensures excellent resistance to high shock loads
- The performance of Renold Conveyor Chain is ensured by a programme of continuous testing and quality control of component dimensions, fits and material properties
- Breaking loads exceed the minimum international standards
- Close control of material specifications to ensure consistent response to heat treatment
- Unparalleled pitch accuracy ensures smooth operation and low noise



PRODUCT DESCRIPTION - CONVEYOR CHAIN

Renold offer the following as a standard:

- Hollow bearing pin prover chain of 24,000 and 36,000 lbf breaking load in a variety of popular pitches and roller diameters
- Hollow bearing pin oven chain of 24,000 and 36,000 lbf breaking load in a variety of pitches and rollers, with link plate attachment holes for fixing oven grids
- All chains have deep case hardened rollers for even longer life
- Flatted pins and bushes are included as a standard feature for enhanced torsional security
- Specially formulated, heat resilient lubricants are standard for oven chains
- Oven and prover chain pins, bushes and rollers are specially coated to greatly enhance the lubricants effectiveness
- Specialised original equipment oven chains with solid bearing pins for use in ovens, of either straight/side plate or cranked link design
- Solid bearing pin cooler chains of varying pitch, used in original equipment coolers (ie rack type)
- A variety of elevator and lowerator chains for use in coolers
- Sprockets are available for all the chains listed and are able to be manufactured with cast, flame or machine cut teeth and can be surface hardened
- Shaft assemblies are available for all types of chain
- Prover chains are supplied inclusive of the matching and tagging in pairs

KEY FEATURES - TRANSMISSION CHAIN

- Renold's unique dimpled rivet provides easy dismantling and connection of chain
- Renold's pioneering high waisted, heat treated sideplates ensure the optimum balance between resistance to shock loading and long wear life
- Resistance to fatigue is further enhanced by customised surface treatment and link plate holing techniques
- Customised heat treatment and surface finishing on bushes and pins help maximise the chain's resistance to harsh environments
- Renold also ensures that the connecting links are subjected to the same vigorous and exacting manufacturing standards as the main body of the chain, thus ensuring the complete system gives true value for money

PRODUCT DESCRIPTION - TRANSMISSION CHAIN

- Manufactured to British Standard or ANSI dimensions
- Available in simplex (1 strand), duplex (2 strands), triplex (3 strands) in British Standard and ANSI and multiplex strands in the ANSI standard up to octuplex (8 strands)
- Adapted transmission chains are produced with attachments for lighter duty conveying applications
- Transmission chains also available:
 - Nickel plated
 - In Stainless Steel (Renold Coris range)
 - Minimum maintenance (Renold Syno range)
- Renold long life sprockets are available for all standard chains ex-stock, or are manufactured to order



SPECIAL OR ADAPTED TRANSMISSION CHAIN

In addition to our ranges of standard series chain we can also offer:

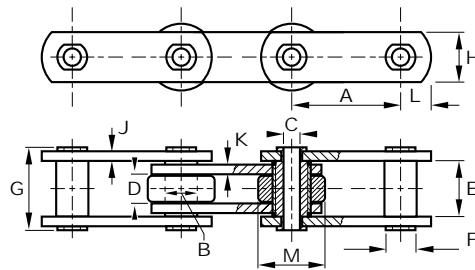
- Standard Series Chain adapted to your unique needs with special attachments
- Special Chain designed with integral attachments to meet individual requirements

Renold Adapted Chain can be in the form of special plates, pin rollers, or blocks which can be designed, manufactured and assembled into chain of all pitch sizes.

Attachments can be made from normal materials, stainless steel or plastics.

We will be pleased to receive details of your requirements and evaluate them for strength, durability, price and despatch. They can be manufactured to your own designs or adapted from existing drawings.

PROVER CHAINS - HOLLOW BEARING PIN

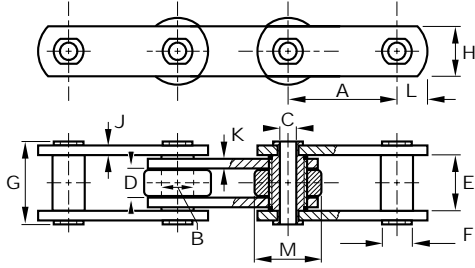


Breaking load LBF - (kN)	B	C	D	E	F	G	H	J	K	L
24000 (107)	33.0	20.1	25.4	43.0	26.9	60.0	51.0	5.1	7.1	29.7
36000 (160)	38.1	23.1	38.0	59.0	31.8	82.0	61.0	7.6	8.9	34.8

Breaking load LBF - (kN)	Pitch A Ins - (mm)	Roller dia. M Ins - (mm)	Renold Product No.	
24000 (107)	6	(152.4)	2.625 (66.68)	177202 / 90
	6	(152.4)	3.00 (76.2)	177193 / 90
	7	(177.8)	2.625 (66.68)	177203 / 90
	8	(203.2)	2.625 (66.68)	177204 / 90
	8	(203.2)	3.00 (76.2)	177205 / 90
36000 (160)	5	(127.0)	3.50 (88.9)	179128 / 90
	6	(152.4)	3.50 (88.9)	179124 / 90
	8	(203.2)	3.50 (88.9)	179129 / 90
	8	(203.2)	5.00 (127.0)	179130 / 90

Bakery industry - products

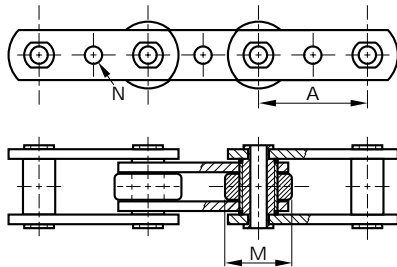
OVEN CHAINS - HOLLOW BEARING PIN



Breaking load LBF - (kN)

	B	C	D	E	F	G	H	J	K	L
24000 (107)	33.0	20.1	25.4	43.0	26.9	60.0	51.0	5.1	7.1	29.7
36000 (160)	38.1	23.1	38.0	59.0	31.8	82.0	61.0	7.6	8.9	34.8

PRODUCT NUMBER ID - 24000 LBF

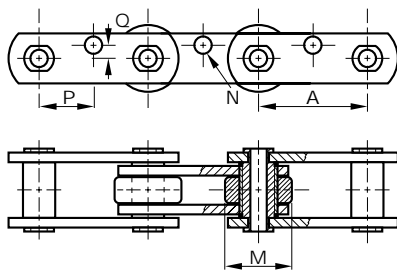


Breaking load LBF - (kN)

	A	M	N	Renold Product No.
24000 (107)	152.4	66.68	19.43	177201 / 90
	152.4	66.68	9.91*	177197 / 90

* INNER PLATES COUNTERSUNK 22.2 x 90° ON INSIDE FACES

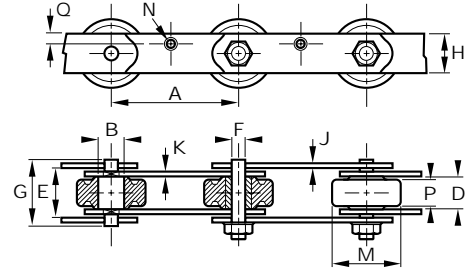
PRODUCT NUMBER ID - 36000 LBF



Breaking load LBF - (kN)

	A	M	N	P	Q	Renold Product No.
36000 (160)	152.4	88.9	19.84	61.0	12.7	179127 / 90
	177.8	88.9	19.84	57.8	12.0	179131 / 90

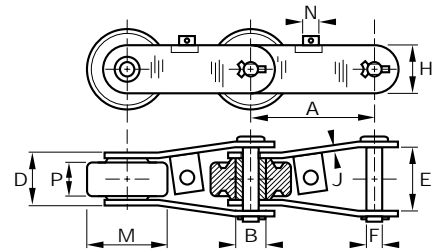
OVEN CHAINS - SOLID PIN STRAIGHT SIDE PLATE



Renold Product No.

	A	B	D	E	F	G	H	J	K	M	N	P	Q
171266 / 90	228.6 (9")	57.2	65.0	85.7	25.4	108.0	70.0	8	8	120.7	13.1 (60°)	44.4	14.3
171257 / 90	228.6 (9")	57.2	65.0	85.7	25.4	108.0	70.0	8	8	120.7	14.12 (90°)	44.4	14.3

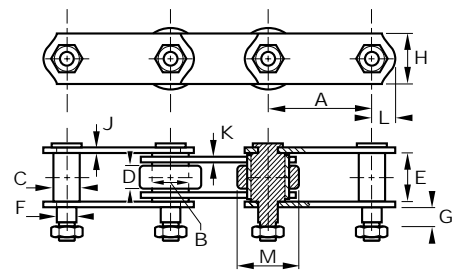
CRANKED LINK CHAINS



Renold Product No.

	A	B	D	E	F	H	J	M	N	P
171260 / 90 (LH)	177.8 (7")	57.2	63.5	90	25.4	70	9.5	120.7	19.05	44.4
171259 / 90 (RH)	177.8 (7")	57.2	63.5	90	25.4	70	9.5	120.7	19.05	44.4
171058 / 90 (LH)	228.6 (9")	57.2	63.5	90	25.4	70	9.5	120.7	19.05	44.4
171057 / 90 (RH)	228.6 (9")	57.2	63.5	90	25.4	70	9.5	120.7	19.05	44.4

COOLER CHAINS - SOLID PIN



Renold Product No.

	Breaking Load LBF - (kN)	A	B	C	D	E	F	G	H	J	K	L	M
179394 / 90	45,000 (200)	152.4 (6")	38.1	31	38	59	30	15.5	61	7.6	8.9	34.8	88.9
179643 / 90	60,000 (267)	177.8 (7")	38.1	23	38	59	22	16.4	61	7.6	8.9	34.8	88.9

Bakery industry - conveyor chain

RENOLD

RENOLD ULTIMATE PERFORMANCE

- The performance of Renold Conveyor Chain is ensured by a programme of continuous testing and quality control of component dimensions, fits and material properties
- Specially formulated lubricants reduce initial wear and provide corrosion protection and long storage life
- Breaking loads exceed the minimum international standards
- Correct chain selection is essential for optimum performance. Renold's experienced sales, production and design staff are always available to freely advise on particular products and applications

RENOLD ULTIMATE SPECIFICATION

The Renold specification has taken many years in design and development to achieve the optimum product. In order to ensure this is translated into product performance, we strictly control:

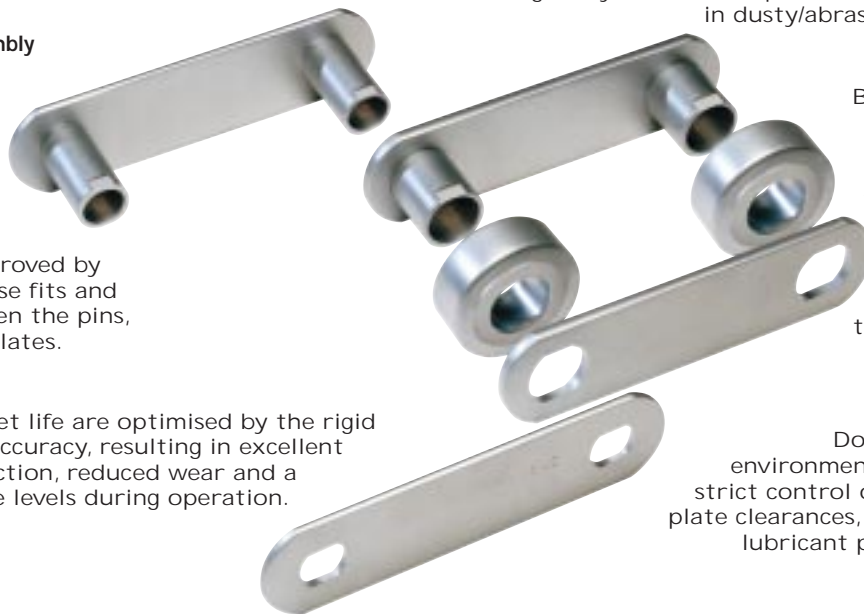
- Materials
- Heat treatment
- Processes
- Fits
- Attachment assembly
- Lubrication

Fatigue life is improved by maintaining precise fits and tolerances between the pins, bushes and side plates.

Chain and sprocket life are optimised by the rigid control of pitch accuracy, resulting in excellent gearing, lower friction, reduced wear and a reduction in noise levels during operation.



Exact control of bush projection through the chain side plate maintains precise clearances between the chain's inner and outer links. This feature reduces the risk of wear during operation, allows space for lubricant penetration, and greatly reduces the possibility of chain seizure in dusty/abrasive environments.



Bush and roller life are maximised by controlling the concentricity of these components and careful selection and control of the heat treatment process.

Down time in hostile environments is minimised by strict control of inner and outer plate clearances, ensuring effective lubricant penetration to the bearing surfaces.



RENOLD ULTIMATE RELIABILITY

- The key to Renold Chain reliability is 'consistency' in design and manufacture
- Maximum chain strength and resistance to wear are achieved by strict control of the material specification and by using state of the art heat treatment processes
- Renold Chain is made to the highest quality standards. All our manufacturing and assembly processes are monitored by Statistical Process Control (SPC) in conformance with ISO 9000 (BS 5750) Quality Systems
- The consistent overall tolerances of Renold Chain make it ideal for conveying systems requiring precise alignment on multi-strand chain layouts

Bakery industry conveyor sprockets

FEATURES

The normal function of a chain sprocket is not only to drive or be driven by the chain, but also to guide and support it in its intended path. Sprockets can be manufactured from good quality cast iron or fabricated steel.

For arduous duty, it may be necessary to use steel sprockets having a high carbon content.

For extremely arduous duty the tooth flanks should be flame hardened.

There are other materials which may be specified for particular requirements. Stainless steel for example is often used in high temperature or corrosive conditions.



The table below gives a guide to the material required.

Normal Conditions	Moderate Shock Loading	Heavy Shock Loading	Abrasion, No Shock Loading	Abrasion and Heavy Shock Loading
Cast Iron or Fabricated Steel	Cast Iron or Fabricated Steel	High Carbon Steel	Cast Iron	High Carbon Steel with hardened teeth

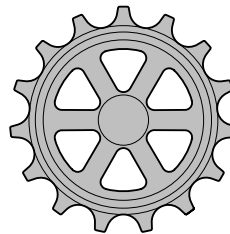
The vast majority of sprockets in use are of the one piece cast iron or fabricated steel design and are often parallel or taper keyed to a through shaft.

In this case it is necessary to remove the complete shaft to be able to remove the sprockets.

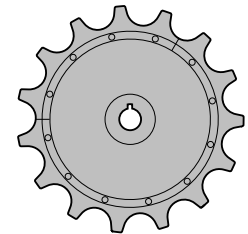
PRODUCT DESCRIPTION

This type of sprocket with removable tooth segments is particularly useful where sprocket tooth wear is much more rapid than chain wear. With this type of sprocket, segments of teeth can be replaced one at a time without having to disconnect or remove the chain; thus considerable expense and downtime can be saved. Shafts, whether they are through shafts or of the stub type, should be of such proportions and strength that sprocket alignment remains unimpaired under load. Shaft sizes should be selected taking into account combined bending and torsional moments. (Consult Renold or refer to The Renold Designer Guide Conveyor Chain for further details).

Cast sprocket



Segmental sprocket



ALSO AVAILABLE FROM RENOLD

The need for reproducible standards of excellence requires finer and ever more stringent process control.

Renold's proficiency, total capability and flexibility offers designers, specifiers and end users the reassurance required for precision and accuracy. This distinguishes Renold as the Hallmark of Quality.

PM SERIES SIZE (35-80)



Helical/worm geared motors and reduction gears from 3.5" to 10" centres, rated from 4kW to 90kW. Ratios available from 8:1 to 307:1

- Variable mounting allows design flexibility
- Robust construction allows usage in heavy-duty applications
- Adaptable for use in hostile environments
- Long life synthetic lubricant

PINFLEX COUPLING



A robust general purpose pin/buffer coupling providing reliable, fail-safe transmission of torque and misalignment capability.

- Steel half bodies, strong yet compact
- Polyurethane buffers, reliable/flexible and temperature resistant
- Torsionally flexible and shock-absorbing, extending machine life

CARTER GEAR SERIES



Carter hydrostatic variable speed drives with 27:1 speed range and capacities up to 37kW offer a number of control options. This particular unit is suitable for use in flameproof and hostile environments.

- Carter repair and service exchange facilities available within the bakery industry

Unique quality and safety

RENOLD

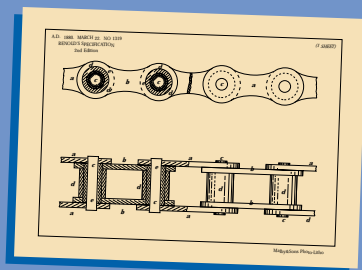
'IN A CLASS OF ITS OWN'

Renold, the inventor of Bush Roller Chain has led the world in chain technology for more than a century.



Only products designed and supplied to our specification carry the MARK OF EXCELLENCE, 'RENOLD'. You can be sure that when you choose such a product, Renold Service, Quality, Value for Money and LONG LIFE PERFORMANCE are guaranteed.

Original patent drawing 1880



A UNIQUE SERVICE



Renold, the premier chain company is dedicated to providing national and global customers with products to the ultimate of specification and design, manufactured to exceed the highest international standards.

Investment in manufacturing and process technology, combined with an international sales and distribution network, places Renold's commitment to the development of chain products and customer service at the forefront of the industry. Renold's 16 national sales companies and over 70 country distributors around the world have direct access to extensive Renold design, test and manufacturing facilities, enabling the chain required to be promptly specified and produced. Renold, the power transmission specialists, provide a worldwide customer orientated product service.

CONSISTENCY

Only materials that meet the Renold exacting specifications are used for the manufacture of our chain components.

Continual investment in new technology demonstrates Renold's commitment to innovation. State of the art automatic assembly, ensures consistent quality of all Renold components.



Stringent process controls are in place at every stage of production. Every chain is proof loaded, resulting in minimum initial wear, greater fatigue resistance and improved wear performance.



Corrosion protection and long life are achieved by automatically pre-lubricating every chain with a specially formulated grease. Chain lubrication is one of the most important factors in achieving a long and trouble free service life. Renold can advise the correct method to suit your needs.



QUALITY

Our commitment to quality ensures that Renold Transmission and Conveyor Chain conforms to and surpasses the highest international standards of manufacture and design, including approval by the American Petroleum Institute.

All of our manufacturing systems conform to ISO9001.

Renold employees are fully trained to ensure all products meet the unique Renold specification.



We also manufacture to the specifications required by API, BAe, CAA, LONDON UNDERGROUND, ROLLS-ROYCE and JAGUAR.



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