# **Conveyor Chain Structures**

Conveyor chains comprise components such as link plates, pins, bushes and rollers. The example below is a standard conveyor chain.



Conveyor chains are categorized as in the table, according to the component materials and heat treatment used.

### Table of Specification Codes

Application	Code	Link Plate	Pin	Bush	Roller		Main Characteristics	
Category					S, M	R, F		
Standard series	DH	CS	CS®		CS		<ul> <li>Economical</li> <li>General-purpose</li> <li>Quick delivery</li> </ul>	
Strong series	АН	CS(H) AS(H)	AS®			CS(H) AS(H)	<ul> <li>Around double the breakage strength of DH, with the same dimensions.</li> <li>Improved wear resistance between pins and bushes.</li> <li>Improved wear resistance between bushes and rollers.</li> </ul>	
Applied series	GH	CS	CS®				<ul> <li>Improved wear resistance between bushes and rollers.</li> </ul>	
	СН	CS		AS®		CS(H) AS(H)	<ul> <li>Improved wear resistance between pins and bushes.</li> <li>Improved wear resistance between bushes and rollers.</li> </ul>	
	вн	CS(H) AS(H)	AS®			CS® AS®	<ul> <li>Around double the breakage strength of CH, with the same dimensions.</li> <li>Improved wear resistance between pins and bushes.</li> <li>Improved wear resistance between bushes and rollers.</li> <li>Special heat treatment of pin surfaces.</li> </ul>	
Environment- resistant series	PH		SUS400®				<ul> <li>Improved corrosion and heat resistances.</li> <li>SUS400 series materials used for all components.</li> </ul>	
	ΥH	CS(H) AS(H)	SUS400®				<ul> <li>Improved corrosion and heat resistances.</li> <li>SUS400 series materials used for pins, bushes and rollers.</li> </ul>	
	SH		SUS300				<ul> <li>Even better corrosion and heat resistances than PH.</li> <li>SUS300 series materials used in all components.</li> </ul>	

Key to codes CS : Carbon Steel

AS : Alloy Steel

SUS400 : 400-series Stainless Steel

SUS300 : 300-series Stainless Steel

 $\ensuremath{\boldsymbol{\Theta}}$  : Heat treated

# **Table of Average Ultimate Tensile Strengths**

Specification Code	DH, GH, CH		АН, ВН, ҮН		РН		SH	
Chain No.	kN	kgf	kN	kgf	kN	kgf	kN	kgf
HRS03075 03100 03150	29.4	3000	69.6	7100	53.9	5500	33.3	3400
HRS05075 05100 05150	68.6	7000	142.2	14500	107.9	11000	68.6	7000
HR10105	53.9	5500	98.1	10000	83.4	8500	48.1	4900
HR10108	78.5	8000	142.2	14500	122.6	12500	68.6	7000
HR15208	78.5	8000	142.2	14500	142.2	14500	68.6	7000
HR10011 15011	112.8	11500	225.6	23000	176.5	18000	107.9	11000
HR7813 10113	132.4	13500	240.3	24500	186.3	19000	122.6	12500
HR15215 20015 25015	186.3	19000	279.5	28500	264.8	27000	132.4	13500
HR15219 20019 25019 30019	245.2	25000	387.4	39500	357.9	36500	186.3	19000
HR25026 30026 45026	313.8	32000	519.8	53000	460.9	47000	250.1	25500
HR30048 45048 60048	475.6	48500	681.6	69500				
HR30054 45054 60054	529.2	54000	1029.7	105000				

Note

Values in this table are set from calculation of tensile strength by engineering design. This value is not assured tensile strength. Miinimum tensile strength is 85% of average tensile strength.

## **Roller Forms**

The roller forms for conveyor chains can be broadly classified as below.



### **Allowable Load on Rollers**

For conveyor chains which move while carrying a load, the allowable load on the rollers must be considered when selecting the chain. The allowable loads that can be borne by well-lubricated rollers are as described in the table below.



		R-type and F	C time and M time Dellars				
Chain No.	Norma	l series	Strong	series	S-type and M-type Rollers		
	kN	kgf	kN	kgf	kN	kgf	
HRS03075 03100 03150	0.54	55	0.88	90	0.54	55	
HRS05075 05100 05150	1.03	105	1.71	175	1.03	105	
HR10105	0.93	95	1.57	160	0.93	95	
HR10108	1.27	130	2.11	215	1.27	130	
HR15208	1.42	145	2.35	240	1.42	145	
HR10011 15011	1.77	180	2.94	300	1.77	180	
HR7813 10113	2.11	215	3.38	345	2.11	215	
HR15215 20015 25015	2.50	255	4.17	425	2.50	255	
HR15219	3.14	320	5.10	520	3.14	320	
HR20019 25019 30019	4.12	420	6.86	700	4.12	420	
HR25026 30026 45026	5.39	550	8.82	900	5.39	550	
HR30048 45048 60048	7.64	780	12.5	1280	7.64	780	
HR30054 45054 60054	10.1	1030	16.7	1700	10.1	1030	

#### Allowable load per roller

Note

Materials used for rails must have tensile strength of at least 400N/mm<sup>2</sup>(41kgf/mm<sup>2</sup>).