

Stainless Steel Chain (SS/SSK)



Excellent resistance to corrosion and heat that allows use in almost everywhere

There are two types of Stainless Steel Chain: SS and SSK. The SS type has the highest resistance to corrosion and heat. However, it is made entirely of austenite stainless steel and thus its tensile strength is slightly lower than 70% of a standard roller chain, and maximum allowable load drops to a little over 10%.

The SSK type has 1.5 times higher maximum allowable load compared to the SS type. Select SSK when you need more strength than SS, or desire longer product life.

Both types have equivalent corrosion resistance.

Recommended uses

- Conditions exposed to mild alkaline and mild acidic chemical agents, sea water and wastewater. Various chemical plants and water treatment plants.
- Conditions of high temperature
Heat-treating furnaces, dry furnaces, incinerators

Maximum allowable load (Double pitch)

	Maximum allowable load			
	SS		SSK	
	kN	kgf	kN	kgf
DID C2040SS DID C2042SS	0.44	45	0.69	70
DID C2050SS DID C2052SS	0.69	70	1.03	105
DID C2060HSS DID C2062HSS	1.03	105	1.57	160

Average tensile strength and maximum allowable load (Single pitch)

SS

Chain No.	Average tensile strength		Maximum allowable load	
	kN	kgf	kN	kgf
* DID 25SS	3.33	340	0.12	12
* DID 35SS	7.55	770	0.26	26
DID 40SS	13.3	1,350	0.44	45
DID 50SS	20.9	2,120	0.69	70
DID 60SS	30	3,050	1.03	105
DID 80SS	53.4	5,420	1.77	180
DID 100SS	82.3	8,360	2.55	259

Note: Those marked with * indicate bushing chains.

SSK

Chain No.	Average tensile strength		Maximum allowable load	
	kN	kgf	kN	kgf
DID 40SSK	13.3	1,350	0.69	70
DID 50SSK	20.9	2,120	1.03	105
DID 60SSK	30	3,050	1.57	159
DID 80SSK	53.4	5,420	2.65	269



Selection of chains

Stainless Steel Chain has lower average tensile strength and maximum allowable load compared to the standard roller chain. Please refer to the maximum allowable load chart in the previous page and p122~124 for chain selection.

Connecting links and offset links

RJ type connecting links are used for Stainless Steel Chains #60 or smaller and CJ type connecting links for #80 or larger. 2POJ offset links are used for sizes #25, and OJ links for all other sizes.

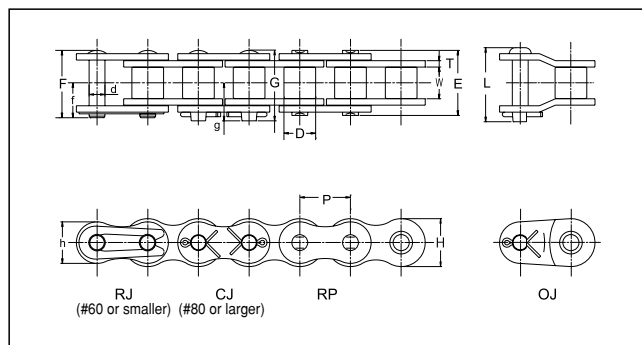
Sprockets

Standard sprockets for Stainless Steel chains can be used since the dimensions are the same as standard roller chains.

Caution

- ① As a general property of stainless steel, stress corrosion cracking and pitting corrosion can be caused by chlorine and chlorine ion (Cl⁻).
- ② The chart on right shows the data of tests on the level of corrosion resistance for each medium and does not guarantee the performance of the chains. Please take into consideration the conditions, temperature, level and other overall situation when using.

Dimensional Drawing



Corrosion resistance

Medium	Standard	Stainless steel
Aceton	×	○
Sulfurous gas (wet)	×	○
Sulfurous gas (dry)	—	○
Ammonia gas (cool)	—	○
Ammonia gas (hot)	×	×
Ammonia water	△	○
Ethanol	○	○
Sodium chloride, salt	×	△
Hydrochloric acid	×	×
Chlorine gas (wet)	×	×
Sea water	×	△
Hydrogen peroxide	×	△
Caustic soda (20%)	×	○
Gasoline	○	○
Potassium permanganate	△	○
Formic acid	×	×
Milk	○	○
Citric acid	×	○
Glycerin	△	○
Acetic acid (10%)	×	○
Bleaching powder, sodium hypochlorite	×	×
Carbon tetrachloride (dry)	△	△
Alcoholic soap	×	△
Oxalic acid (5%)	×	△
Oxalic acid (10%, boiled)	×	×
Nitric acid	×	○
Vinegar	×	△
Calcium hypochlorite	×	×
Baking soda	○	○
Water	×	○
Calcium hydroxide	△	○
Phenic acid, Phenol	×	△
Petroleum	○	○
Soapwater	△	○
Carbonic water	○	○
Sodium carbonate	○	○
Kerosene	○	○
Lactic acid (5%)	×	○
Lactic acid (10%, 65°C)	×	△
Paraffin	○	○
Beer	○	○
Benzene, benzol	○	○
Boric acid (5%)	×	○
Pottasium alum	×	△
Methanol	○	○
Iodine	×	×
Butyric acid	×	△
Sulfuric acid	×	×
Phosphoric acid (10%)	×	△
Sodium sulfate (5%)	△	○
Wine	○	○

Note: 1. ○:Corrosion resistant
 △:Corrosion resistant depending on conditions
 ×: No resistance
 2. Unless specified, tests were conducted at 20°C.

Dimensions

Chain No.	Pitch	Roller link width	Roller (Bush) dia.	Pin							Plate			Approx. weight (kg/m)
				P	W	D	d	E	F	G	f	g	L	
* DID 25SS	6.35	3.18	(3.30)	2.31	7.65	8.65	—	4.83	—	—	0.75	5.8	5.0	0.14
* DID 35SS	9.525	4.78	(5.08)	3.59	11.55	12.90	—	7.13	—	13.85	1.25	8.8	7.3	0.33
DID 40SS 40SSK	12.70	7.95	7.92	3.97	16.15	17.65	—	9.58	—	19.05	1.50	11.7	10.1	0.63
DID 50SS 50SSK	15.875	9.53	10.16	5.09	20.40	21.80	—	11.60	—	23.05	2.00	14.6	12.6	1.04
DID 60SS 60SSK	19.05	12.70	11.91	5.96	25.40	26.90	—	14.20	—	29.55	2.40	17.5	15.0	1.50
DID 80SS 80SSK	25.40	15.88	15.88	7.94	32.30	—	35.40	—	19.25	37.10	3.20	23.0	19.7	2.62
DID 100SS	31.75	19.05	19.05	9.54	40.40	—	43.35	—	23.15	44.05	4.00	28.9	24.8	4.09

Note: Those marked with * indicate bushing chains.