iwis® CR Chains

iwis corrosion resistant chains consist of hardened, highly alloyed steels showing a good wear resistance and considerably higher fatigue and breaking strengths than for stainless chains. CR chains can be used in those applications where chains despite of extreme conditions need to remain flexible and stainless due to hygienic and visual reasons. A lubrication of CR chains is recommended.



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iwis® CR Chains

Corrosion resistant roller chains and conveyor chains

PROBLEM/INITIAL SITUATION

Chains in corrosive media have to possess high fatigue and wear resistance. Chains made of standard steels corrode quickly whilst stainless steels made of V2-A steel do not withstand these stresses. Nickel-plated or galvanised chains only offer limited corrosion-proofing because the coating is destroyed by abrasion.

OUR SOLUTION

iwis high performance chains made of hardened high-alloyed steels with good corrosion resistance and significantly higher strength than stainless steel chains.

HIGHLIGHTS

- high wear resistance if re-lubrication is done at regular intervals
- good and long-lasting corrosion resistance - in comparison with surface-coated chains
- Significantly higher fatigue resistance and breaking strength figures than stainless steel chains
  → smaller dimensions possible

TECHNICAL FEATURES

	iwis CR	iwis Standard	Stainless Chain
All components	hardened	hardened	not hardened
pre-stretched	yes	yes	not regularly
Fatigue strength	80%	100%	50%
Wear resistance	95%	100%	30%

AREAS OF APPLICATION

- In food product processing
- In drinks manufacture
- In packaging machines
- In cheese and dairy technology
- In areas where dominate moist or aggressive conditions
- In cleaning systems
- In (chemical) equipment construction

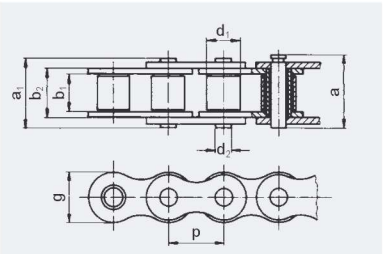
...and everywhere where chains have to remain articulated despite difficult conditions as a consequence of corrosion and may not rust on hygienic or visual grounds.

CORROSION RESISTANCE

All CR-chains are provided with a reliable high quality initial lubrication.

For permanent corrossion resistance, a sufficient regular re-lubrication is necessary.

DIN ISO no.	Ref. no. iwis	Pitch p (")	Outside width a_1 (mm)	Outside width a (mm)	Diameter d_1 (mm)	Diameter d_2 (mm)	Plate height	Breaking strength FB	Bearing area f (cm^2)	Weight q (kh/m)
08 B-1	L 85 CR	1/2"	16,9	18,5	8,51	4,45	12,2	15.000	0,50	0,70
10 B-1	M 106 CR	5/8"	19,5	20,9	10,16	5,08	14,4	18.000	0,67	0,95
12 B-1	M 127 CR	3/4"	22,7	23,6	12,07	5,72	16,4	22.000	0,89	1,25



RUST- AND ACID-RESISTANCE

Dependent on

- duration
- concentration
- temperature
- variations of the mixture of the individual media. We recommend field trials to check fitness for the operational purpose.

CHAIN WHEELS

Depending on the circumstances, chain wheels can be used which are made of

- stainless material
- suitable plastics
- or steel, possibly with an electro-plated coating.

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Influencing parameters

Technical outline: Which are the major factors causing corrosion?

THE MAJOR PARAMETERS CAUSING CORROSION

There are four main factors causing corrosion:

- the medium in which the chain moves
- the material the chain is made from
- the construction of the component
- the run time and way of application

CORROSION FACTORS

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CONSTRUCTION	MATERIAL	MEDIUM	TIME INFLUENCE
• surface condition • other materials in environment • assembly (welding and riveting) • design • protective measures • contact to medium (partial or total dipping)	• steel product • alloying additive • metallurgic condition (heat treatment and mechanical treatment) • pollution • composition	• motion of medium • chemical condition • viscosity • pollution • pH-value (acidity) • temperature • pressure • concentration • solid deposit	• maintenance frequency • re-lubrication intervall • re-lubrication medium • aging of structure • tension development • change of inert layer? • temperature changes

All corrosion factors influence the corrosion resistance to the same extent.
Please refer to our Technical Service Team for professional support.