

JWIS[®] 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.





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

- Very high wear-resistance
- Very 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	85%	100%	50%
Wear resistance	95%*	100%	30%
Resistance to chemicals	good*	low, good when- surface-plated	very good

* Resistance to chemicals and wear-resistance of the iwis CR chains can be improved via effective lubrication.

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.

RUST-AND ACID-RESISTANCE

Dependent on

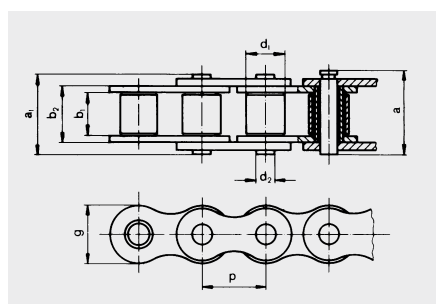
- duration
- concentration
- temperature
- variations of the mixture of the individual media. We recommend field trials to check fitness for the operational purpose.

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.

DIN ISO no.	Ref. no. iwis	Pitch p (")	Outside width			Diameter		Plate height	Breaking strength FB	Bearing area f (cm ²)	Weight q (kg/m)
			a ₁ (mm)	a (mm)	d ₁ (mm)	d ₂ (mm)					
08 B-1	L 85 CR	1/2"	16,9	18,5	8,51	4,45	12,2	16.000	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	



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

NOTE

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

CORROSION FACTORS

CONSTRUCTION

- surface condition
- other materials in environment
- assembly (welding and riveting)
- design
- protective measures
- contact to medium (partial or total dipping)

MATERIAL

- steel product
- alloying additive
- metallurgic condition (heat treatment and mechanical treatment)
- pollution
- composition

MEDIUM

- motion of medium
- chemical condition
- viscosity
- pollution
- pH-value (acidity)
- temperature
- pressure
- concentration
- solid deposit

TIME INFLUENCE

- maintenance frequency
- re-lubrication intervall
- re-lubrication medium
- aging of structure
- tension development
- change of inert layer?
- temperature changes