



THIELE Conveyor Chains

for Poultry Industry



Conveyor Chains for Poultry Industry

The round steel chain has for many years been the central means of propulsion in the poultry processing industry, and especially for slaughterhouse operations. Here round steel chains are employed on all manner of production lines, including slaughtering, dissection, weighing and chilling.

Round Steel Chains in Alloyed Steel TWN 0085

Round steel chains 8 x 25.4 mm in size are offered in standard lengths of 50 m. THIELE provides a connecting link with a grub screw for connecting together these standard chain lengths.

Dimension [mm]	Article-No.	Pitch p [mm]	Pitch tol. ± [mm]	Inner Width w ₁ [mm min.]	Outside Width w ₂ [mm max.]	Multi Pitch Length 11 x p [mm]	Multi Pitch Length tol. ± [mm]	Weight app. [kgs/m]
8 x 25,3	F05470	25,3	-0,1/+0,3	9,4	26,0	278,3	-0,0/+1,0	1,4
8 x 25,4	F05471	25,4	-0,2/+0,3	9,0	26,1	279,4	-0,4/+0,6	1,4
8 x 38,0	F05472	38,0	-0,2/+0,5	13,3	30,0	418,0	-0,0/+1,1	1,2
10 x 38,0	F05473	38,0	-0,2/+0,5	12,5	34,0	418,0	-0,5/+1,4	2,0

Technical Properties:

Description	Nominal Size [mm]	Test Force [kN min.]	Breaking Force [kN min.]	Surface Hardness [HV10]	Hardening Depth at HV 550 [mm]	Surface Thickness [μm min.]	Feature
T50E	8x25,3	22	37	min. 750	min. 0,5	25	S
T50E	8x25,4	24	40	720-800	0,6-1,0	12	S, M, F, L
T80E	8x38,0	22	40	750-850	0,12±0,01	12	
T50E	10x38,0	38	64	720-800	0,6-1,0	12	
T80E	10x38,0	60	98	720-800	0,6-1,0	12	
T50V	8x25,4	24	40	min. 250	-	-	

Material: Manganese steel, chromium-nickel-steel



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Round Steel Chains in Corrosion-resistant, Austenitic Steel

The round link chains made out of austenitic steel are fine-toleranced and offered in standard lengths of 50 m.

Dimension [mm]	Article-No.	Nominal Size d [mm]	Pitch p [mm]	Inner Width w ₁ [mm min.]	Outside Width w ₂ [mm max.]	Multi Pitch Length 11 x p [mm]	Multi Pitch Length tol. ± [mm]	Weight app. [kgs/m]
8 x 25,4	F054711	25,4	-0,2/+0,3	9,0	26,1	279,4	-0,4/+0,6	1,32

Technical Properties:

Description	Dimension [mm]	Test Force [kN min.]	Breaking Force [kN min.]
T60R	8x25,4	37,5	60

Material: Grade 1.4404 (or similar) corrosion-resistant austenitic steel

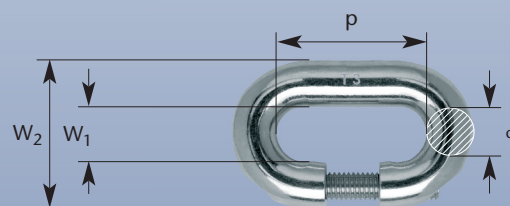


Chain Connecting Link TWN 0086

The connecting link with stud screw is a specially developed joint link for the round link chain 8 x 25,4 mm acc. to TWN 0085 and is electro galvanized.



Dimension [mm]	Article-No.	Pitch p [mm]	Inner Width w ₁ [mm min.]	Outside Width w ₂ [mm max.]	Breaking Force [kN min.]	Surface Hardness [HV10]	Hardening Depth at HV 550 [mm]	Weight app. [kgs]
8 x 25,4	F42077	25,4	9,3	26,1	30	550-600	0,2-0,3	0,04





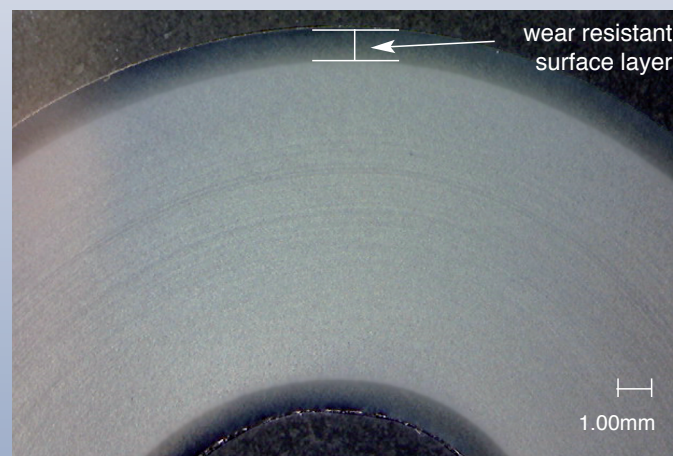
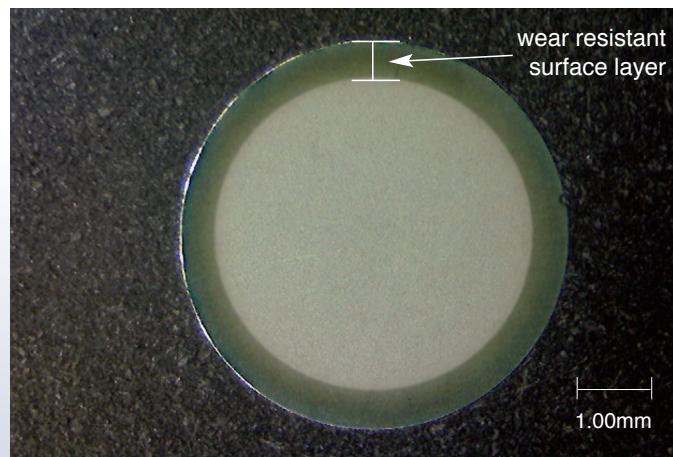
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The two key factors that affect the service life of round steel chains are wear and corrosion. This is why THIELE fine-toleranced round steel chains are manufactured with a high dimensional accuracy over a defined measuring distance.

Dimensional accuracy plays a decisive role and has a major impact on the operating life of the chain. Another important factor in ensuring a frictionless operation between the chain and the drive and take-up wheels is to use components that are a dimensional match for one another.

THIELE uses a specific case hardening process to minimise wear on its round steel chains. This process applies carbon diffusion into the surface of the material in order to render the chains wear resistant.

Case Hardened Round Steel Chain 8x25,4 mm



Round steel chains operating in slaughterhouse lines are exposed to chemical influences, such as cleaning agents, and therefore under constant corrosion attack. Alloy steel chains of this kind are provided with a galvanic coating to counteract the effect of corrosion. The professionally applied, galvanic surface sealing that THIELE has been employing for many years effectively counteracts premature corrosion.

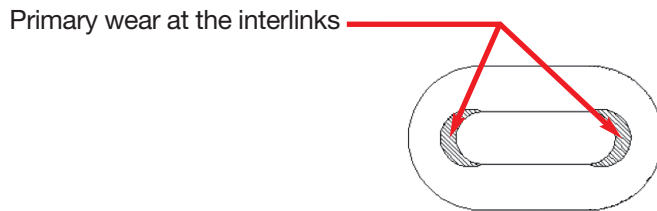


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Wear

In operation, round link chains are exposed to wear at interlink.

The interlink wear causes at pitch elongation of the chain link and therefore also of the conveyor chain.



For this reason, THIELE conveyor chains are produced with a corresponding surface hardness and hardening depth, therefore the operational wear is counteracted.

Discard criteria

Any frictional process of this kind will inevitably result in material loss, especially in the interlink areas. As a manufacturer we recommend to take a round steel chain out of operation when the amount of elongation over defined meaning measuring length is greater than 2%.

The Definition of the discard criteria is calculated with the below formular, taking a measuring length of over a length of 11 chain pitches into consideration:

$$\text{READY FOR DISCARD} = M_E > 2\% M_L$$

The meaning of formular symbols:

M_E = test section of the chain in current use

M_L = test section of original length

Continuing to use the chain beyond this limitation usually results in excessive wear to the chain and chain wheels. It can also cause functional failures that can lead to costly production downtimes.





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The requirements imposed on the fracture mechanics of round steel chains are derived from the process parameters. Here it is essentially the speed and load conditions, under consideration of the coefficients of friction and deflection, that determine the breaking-strength requirements of the chain.

THIELE can provide a range of material grades and heat treatments for individual applications. These must be precisely coordinated in advance with the equipment manufacturer or plant operator on a case-by-case basis.

THIELE can draw on decades of experience in the manufacture and application of round steel chains for poultry slaughter plants.

THIELE round steel chains therefore constitute the central drive transmission element in poultry processing plants.

THIELE Conveyor Chain – The central element in the Drive Transmission System.

