THIELE
POULTRY CHAINS

Conveyor Chains for Slaughterhouses

Round Steel Chains for Poultry Industry TWN 0085

The calibrated TWN 0085 conveyor chains are used in the poultry industry, especially in slaughterhouses, as a central means for power and drive. The special THIELE case-hardening ensures a high wear resistance and the galvanized surface provides a high corrosion protection of the round steel chains. The manufacturing and testing requirements are based on manufacturer specific specifications.

The fine tolerated round steel chains are offered in standard lengths of 50 m.
THIELE provides screw-type connecting links (TWN 0086) to connect the 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	-0,2/ +0,3	9,2	26,1	278,3	-0,0/ +1,0	1,35
8 x 25,4	F05471	25,4	-0,2/ +0,3	9,6	26,1	279,4	-0,4/ +0,6	1,35
8 x 38,0	F05472	38,0	-0,2/ +0,3	13,3	30,0	418,0	-0,0/ +1,1	1,20
10 x 38,0	F05473	38,0	-0,25/ +0,5	12,5	34,0	418,0	-0,5/ +1,4	2,00

Technical Properties:

Description	Nominal Size [mm]	Test Force [kN] min.	Breaking Force [kN] min.	Surface Hardness [HV1]	Hardening Depth at HV 550 [mm]	Surface Thickness [mµ] min.	Compatible with*
T50E	8 x 25,3	24	40	min. 750	0,4 - 0,56	25	S
T50E	8 x 25,4	24	40	730 - 830	0,4 - 0,56	12	S, M, F, L
T80E	8 x 38,0	24	40	730 - 830	0,4 - 0,56	12	
T50E	10 x 38,0	37,5	62,5	730 - 830	0,5 - 0,70	12	
T80E	10 x 38,0	60	98	730 - 830	0,5 - 0,70	12	
T50V	8 x 25,4	24	40	min. 250	–	–	

Material-Options: *Manganese Steel, Chrome-Nickel-Steel*
***Feature:** suitable for *S = "Marel Stork"; M = "Meyn", F = "FOODMATE"; L = "Linco"*

Finish: *electro galvanized*

Calibrated Poultry Conveyor Chains TWN 0085

The calibrated TWN 0085 conveyor chains are used in the poultry industry, especially in slaughterhouses, as a central means for power and drive. The special THIELE case-hardening ensures a high wear resistance and the galvanized surface provides a high corrosion protection of the round steel chains. The manufacturing and testing requirements are based on manufacturer specific specifications.

The fine-tolerance round steel chains are made from austenitic steel and are offered in standard lengths of 50 m.

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 25,4	F054711	25,4	-0,2/ +0,3	9,2	26,1	279,4	-0,4/ +0,6	1,32

Technical Properties:

Description	Dimension [mm]	Test Force [kN] min.	Breaking Force [kN] min.
T60R	8 x 25,4	37,5	60

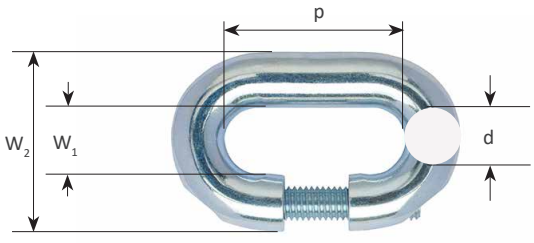
Material: *Corrosion-resistant austenitic steel (1.4404/316L or similar)*

Finish: *Bright finish*

Screw-type Connecting Links TWN 0086

The screw-type connecting links TWN 0086 are used to easy connect the conveyor chains in poultry slaughterhouses. The special THIELE case-hardening ensures high wear resistance and the galvanized surface provides high corrosion protection of the round steel chains. The manufacturing and testing requirements are based on manufacturer specific specifications.

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/m]
8 x 25,4	F42077	25,4	9,3	26,1	30	550 - 600	0,2 - 0,3	0,034



Finish: *Electro galvanized*

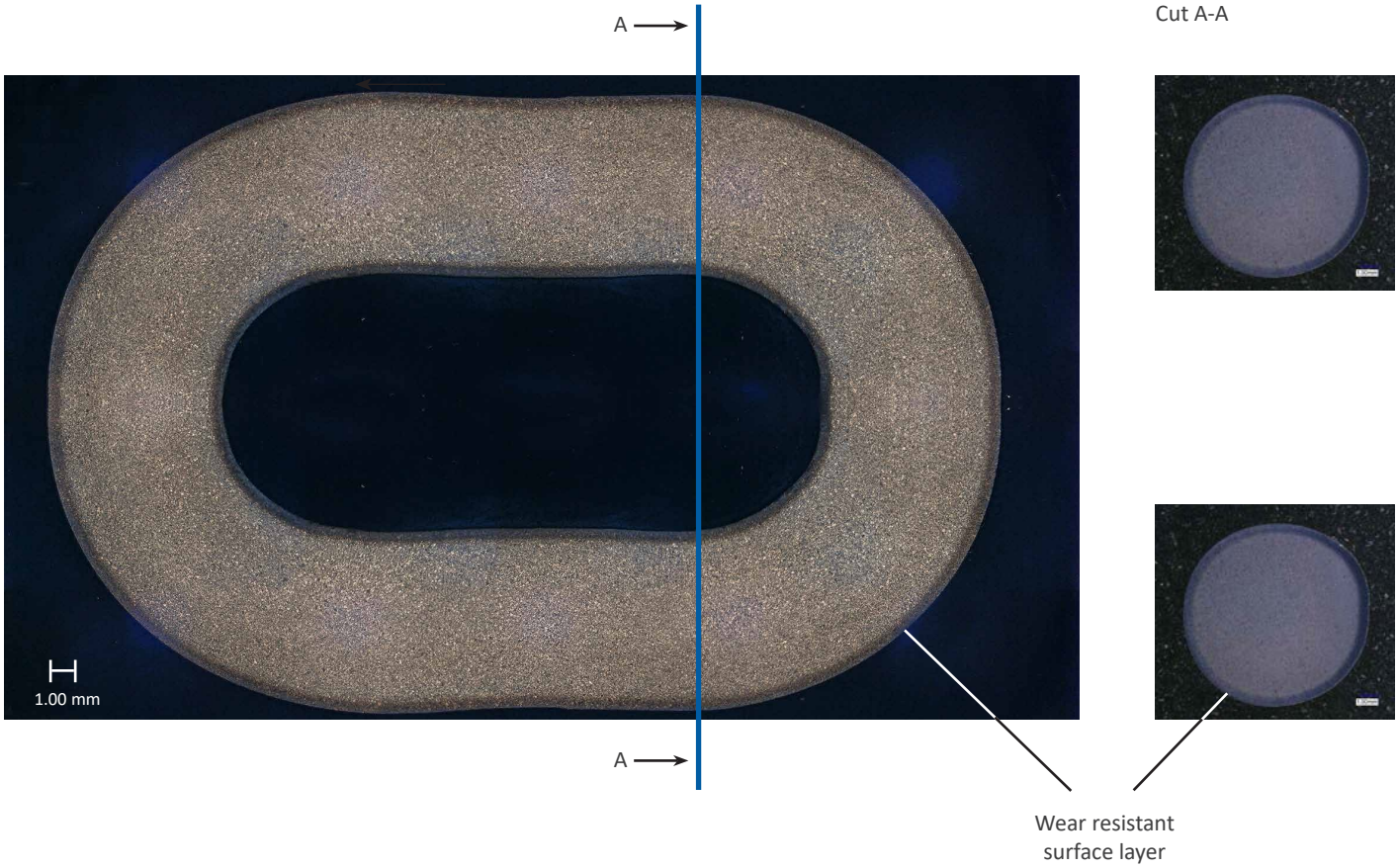
THIELE fine-tolerance round steel chains are manufactured with a high dimensional accuracy over a defined measuring distance.

Dimensional accuracy plays a decesive role and has a major impact on the operating life of the chain. Another important factor in ensuring a frictionless operation between the round steel chain and the drive and tale wheels, is dimensional coordination to each other.

The two key factors that affect the service life of round steel chains are wear and corrosion.

THIELE uses a specific case hardening process to minimise the wear. The process applies carbon diffusion into the surface of the material in order to render the wear resistance of the chains.

Case Hardened Round Steel Chain 8 x 25,4 mm

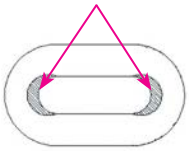


Round steel chains operating in slaughterhouse lines are exposed to chemical influences, such as cleaning agents. As a result, round steel chains are exposed to a continuous process of corrosion. Therefore, the round steel chains TWN 0085 are protected with a galvanic coating to counteract the effect of corrosion.

Wear

In operation, round steel chains are exposed to wear at the interlinks.
The interlink wear causes a pitch elongation of the chain link and therefore of the complete conveyor chain.

Primary wear at the interlinks



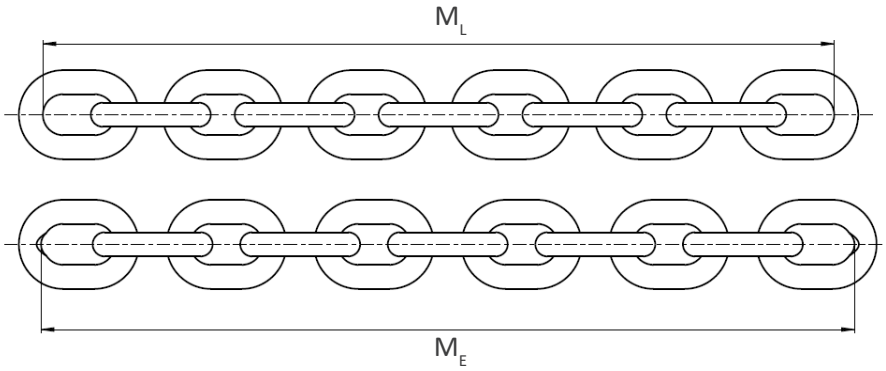
THIELE conveyor chains are produced with a corresponding surface hardness and hardening depth.

Discard criteria

Any frictional process will inevitably result in material loss, especially in the interlink areas. THIELE as a manufacturer recommends to take round steel chains out of operation once the total elongation over a defined length exceeds 2 %.

The definition of the discard criteria is calculated with the following formula, taking a measuring length of 11 link pitches into consideration:

$$\textbf{POINT OF DISCARD} = M_E > 2\,\%\, M_L + M_L$$



Legend:
M_E = actual measured test section in use (actual value)
M_L = Original length of the section (as per manufacturer specification)

To continue using the chain beyond this point of discard may result in an excessive wear of the chain and chain wheels. It may also cause functional failures which may lead to costly production downtimes.

Poultry Chains

The requirements imposed on the fracture mechanics of round steel chains are derived from the process parameters.

The speed and load conditions under consideration of the coefficients of friction and deflection, are essential to determine the breaking force requirements of the chains.

THIELE provides a range of different material grades and heat treatments for individual customer applications. They are precisely coordinated with the equipment manufacturer or plant operator on a case-by-case basis.

THIELE has experience in manufacturing round steel chains for poultry processing plants for many decades and work as the central element in power transmission.

THIELE Poultry Chains
The central element in power transmission

Accessoires for Poultry Chains

THI-Rolls

The corrosion-protected and ball bearing-mounted rolls are made of high-quality POM. They are characterized by their high strength, hardness and rigidity, as well as high abrasion resistance.

Trade Size	Diameter [mm]	Width [mm]	Radius Tread (Crowning) [mm]	Material	Weight app. [kgs]	Compatible with	Type
D49	48,7	22,5	45	POM	0,05	Meyn	Clip design
D49	48,7	21,6	45	POM	0,05	Meyn	Srew design
D51	51,5	21,6	29	POM	0,06	Marel Stork	Srew design

Color: Blue, RAL 5017 other colors available on request

THI-Brackets (chain holder)

The high-quality THI-Brackets are made of PA and impress with their noise and vibration damping. The chain holder has a high abrasion resistance with high mechanical strength at the same time. With their recipes they are perfect suitable for the use in processing plants.

Clip design *Srew design*

Height	Width [mm]	Depth [mm]	Distance Bracket parts [mm]	Material	Weight app. [kgs]	Compatible with	Type
110	50,5	30,0	62	PA	0,07	Meyn	Clip design
110	50,5	29,8	62	PA	0,06	Meyn	Srew design
110	50,5	29,8	62	PA	0,06	Marel Stork	Srew design

Color: Grey, other colors available on request

THI-Trolleys

The chain mounting bed of the THI-Trolley is specially designed for the chain geometry of the THIELE conveyor chains and provides a precise fit with screws and self-locking nuts made of rust- and acid-resistant material.

Height	Chain d x t [mm]	Distance between the rollers [mm]	Weight app. [kgs]	Compatible with	Type
110	8 x 25,4	≈ 19	0,27	Meyn	Srew design
110	8 x 25,4	≈ 19	0,23	Meyn	Clip design
110	8 x 25,3	≈ 19	0,27	Marel Stork	Srew design

Color: Grey, other colors available on request

THI-Trolleys mounted with chain and connecting links

The high-quality THI-trolleys are also offered assembled with the high-quality, special abrasion-resistant, heat-treated, corrosion-protected and true-to-gauge THIELE round steel chain. Standard distance: 6“. Other distances (4“, 8“, 10“ and 12“) are possible. The first THI-Trolley is installed according to customer requirements.
The chains are delivered with a test certificate.

Height	Chain [mm]	Material	Breaking Force [kN]	Length [m]	Weight [kgs/m]	Compatible with	Type
110	8 x 25,4	Mn-Steel	40	50	3,1	Meyn	Srew design
110	8 x 25,4	Mn-Steel	40	50	3,1	Meyn	Clip design
110	8 x 25,3	Mn-Steel	37	50	3,2	Marel Stork	Srew design
110	8 x 25,4	Stainless Steel	40	50	3,1	Meyn	Srew design
110	8 x 25,4	Stainless Steel	40	50	3,1	Meyn	Clip design
110	8 x 25,3	Stainless Steel	40	50	3,2	Marel Stork	Srew design

Color: THI-Rolls: Blue, RAL 5017; THI-Trolleys: grey, other colors available on request

Notes