

INTERCOOL FOOD TECHNOLOGY LTD.

Chilling process design for an existing slaughter facility, Goodvalley, Poland (2021-2022)

THE SCOPE COMPRISED

CHILLING PROCESS SPECIFICATIONS

Comprehensive documentation was developed for the Quick Chill Tunnel and associated equalizing equipment, detailing all relevant performance parameters. These include process duration, air temperature profiles, airflow dynamics, and carcass spacing – each critical to minimizing chill loss and ensuring optimal meat quality. The specifications encompass the entire chilling process from start to finish.

BUILDING STRUCTURE DESIGN

Detailed construction guidelines were provided for the insulated structure housing the Quick Chill Tunnel. These specifications ensure long-term structural integrity, even under conditions involving frequent defrosting and re-freezing during cleaning cycles. Best practices were outlined for integration with adjacent building components, including pipe penetrations, vapor barrier continuity, insulated panel finishes, and the installation of steel columns on insulated flooring.

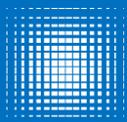
REFRIGERATION TENDER AND QUALITY ASSURANCE

DMRI conducted a thorough evaluation of submitted tenders in collaboration with Goodvalley to ensure the selection of the most suitable refrigeration contractor and equipment supplier in alignment with the defined specifications. The Polish company Coldex was selected for the installation, which was executed with a high level of precision. The DMRI-engineered solution delivered both superior meat quality and energy efficiency.

COMMISSIONING AND PERFORMANCE TESTING

DMRI performed comprehensive performance testing of the carcass chilling process during both initial startup and at full operational capacity. These tests verified that the refrigeration system operated in accordance with the specified parameters. Based on the results, adjustments were implemented to further reduce chill loss, enhance meat quality, and optimize energy consumption.

"The design focused on methods and technologies aimed at the efficient production of safe, high-quality meat products at competitive prices. It also prioritized a safe working environment for operators and low energy consumption. The service platform is designed to support these objectives."





PROJECT INFORMATION

Chilling process area -

1,300 m²

Slaughter capacity -

280 pig carcasses/hour

Chill loss target -

1.3 %



”The consultants developed a new design of our chilling process, which solved several current and future problems in one investment project:

Significant reduction of chill loss, reduced drip loss and overall improvement of meat quality. The implementation could be executed without disturbing the ongoing production and the new layout enables further expansion of our production capacity in the future.

The detailed design and specification have enabled a trouble-free start-up of the new chilling process and superb performance from day one, with a chill loss well below our expectations of 1,3 %.

Since the QCT-principle improves the slaughter yield by more than one percent, it reduces the net emission per kg produced meat. This corresponds perfectly with our environmental strategy at Goodvalley.”

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