

# Load bearing structures for Leppävirta Ice Hockey Hall

LEPPÄVIRTA MUNICIPALITY, RISTO KOSUNEN

Metallipalvelu Hartikainen Oy

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Delivery and installation of ceiling and wall structures



Picture 1. Risto Kosunen, construction foreman, Leppävirta municipality.

Leppävirta is located in the southern part of North Savonia County and has a population of approximately 9,200. The scenic Leppävirta is along the Saimaa deep waterway and Route 5 goes through the municipality. One of Savoy's seven wonders, the Orinoro Gorge, is located in the municipality. At the bottom of the gorge there is a spring where the snow and ice will remain until June.

In 2015, a law came into force that required property owners to conduct surveys on the structures and load bearing capacity of large frame hall buildings. In the study/calculations, it was found that the structures in the properties owned by the municipality of Leppävirta needed to be strengthened. One such property was the Leppävirta Ice Hockey Hall. The ice hockey hall has a fixed structure and there are about 300 seats.



Picture 2. Leppävirta Ice Hockey Hall.

In 2020, the municipality of Leppävirta made a decision to strengthen the ceiling and wall structures of the ice hockey hall. A designer, supervisor and general contractor were selected for the contract in the spring of 2021. The contract was designed and supervised by Sweco and Metallipalvelu Hartikainen Oy (MPH) was selected as the main contractor. The quality requirement of the project was EN1090 EXC-3, which is a standard for metal structures that meets the requirements of public buildings. Metallipalvelu Hartikainen Oy's factory is located in Juuka and the company is part of the Tampereen Konepajat Oy Corporation. MPH's project manager was Jukka Kirjavainen, and the project included metal structures, installation, and meetings. The project started in March 2021 and the handover was in late June 2021. The ice hockey hall was reopened before the next hall season and the ice was frozen in July 2021.



Picture 3. Metallipalvelu Hartikainen Oy.

The municipality of Leppävirta had identified the need to strengthen the wall and ceiling structures, and action was taken quickly after the request for clarification. The occupancy rate of the ice hockey hall is high during the hall season and the hall is only unused for a few months during the year. Leppävirta's master builder, Risto Kosunen, said that it was absolutely important to find a main contractor who has the required implementation standard and that the company can act as the main contractor. To ensure a quality end result, the company's own installation team was an absolutely necessary to have.

Risto said that “the project went very well from start to finish. The work diary was up to date and easy to follow. The additional work that came during the project was handled in an exemplary manner. Communication was smooth and during the project the implementations of the change plans made by the main contractor and designer were carried out in an exemplary manner. When the project is completed within the agreed time and the acceptance inspection by the 3rd party is approved - The customer is very satisfied.”



Picture 4. Leppävirta Ice Hockey Hall, the current wall and ceiling support structure with the reinforced structure.

MPH delivered about 20 tonnes of metal structures, with the main emphasis on carrying out and supervising the adaptation that required modifications. The installation team of the project was at the site for 3 months, which indicates the installation requirements of the site. Jukka Kirjavainen from MPH told about the requirements class of the responsible foreman, which was exigent in this project.

Metallipalvelu Hartikainen Oy operates in accordance with ISO9001 and ISO14001 standards. The steel structures are made in accordance with EN1090 EXC-1, EXC-2 and EXC-3 implementation classes.