



WORLD WIDE WEAVE

The legend lives on:

Holmenkollen - a hill of light for high-fliers

Giant leaps are a Holmenkollen tradition: this famous mountain above Oslo hosted the first ski jump competition as early as 1892. The winning distance then was 21.5 metres. Today the ski jump record stands at 139.5 metres and the hill (Norwegian: kollen) named after the Norwegian medic Dr Holm is a shrine of Nordic winter sports. The years that have witnessed the development of skiing have also seen changes to the jump hill. Renovated a total of 18 times, it was finally torn down completely in 2008 and the same site saw new building work begin in 2009. This followed an international architecture competition won by the Danish firm JDS architects with their spectacular concept for a *Holmenkollen Fyr* (English: lighthouse). The jump hill's filigree silhouette, which seems to hang in the air, is now the shining centre point of Oslo's winter sports and a symbol of Oslo which is visible for miles around. What fascinates is the stainless steel mesh covering the whole of its gigantic steel structure. Acting as a wind filter, the semi-transparent membrane gleams in a captivating interplay with the natural light. At night the mesh, backlit from the inside, turns the arena into a hill of light that seems to touch the sky.

Ski jumping, one of the most dangerous and technically-challenging of all disciplines, is one of the most popular winter sports worldwide. The jumpers accelerate to 100 kilometres per hour in just three seconds and with no loss of speed leap from a great height into more than 100 metres of nothingness. For a few seconds the athletes' courage and skill realise man's timeless dream of flight. Fractions of a second can separate victory



and defeat, and the slightest breeze makes all the difference. Once in the air the athletes are at the mercy of the wind's forces. It is the most common cause of accidents, can bring competitions to a premature end and often decides who emerges as champion. A side wind with unpredictable gusts is particularly dangerous. Which is why entrants in Oslo's architecture contest were called upon to design a structure integrating wind protection for the jumpers. Holmenkollen was also to be given a new look as a symbol of the Norwegian capital. The new build was needed because the old jump hill no longer conformed to the requirements of the International Ski Federation (FIS). The award to Oslo of the 2011 Nordic World Ski Championships was the impetus for building a new hill.

Clear for take-off

Julien de Smedt (JDS architects) designed a puristic steel framework structure to withstand harsh weathering by wind and snow. His winning design for the Holmenkollen as a HS 134 jump hill is an impressive balance of design appeal and functionality. While the fluid lines mimic the dynamics of ski jumping, the cladding of stainless steel mesh protects the athlete on the hill from the wind. The stainless steel mesh's characteristic semi-transparency adds to the visual effect of the futuristic light concept. Spotlights within and on top of the jump tower turn Holmenkollen into a sculpture laden with symbolism. The top of the hill joins the roof terrace with breathtaking views of the city and the surrounding mountains and woods. There are separate lifts to whisk tourists and athletes to the top of the hill, where sport fans can get up close and personal with their idols as they jump.



WORLD WIDE WEAVE

Out of the wind

To clad the ski-jump inside and out, the Danish architects, whose war on convention is winning more and more awards, chose the stainless steel mesh produced by GKD - Gebr. Kufferath AG. The company from Düren, Germany, is a world leader in the supply of high-tech meshes for industry, architecture and design. In automotive and aerospace industry wind tunnels around the world precision GKD meshes are proven as flow conditioning screens. As such they equalise the wind, in order to optimise the aerodynamic properties of vehicles and components. In architecture the mesh combines smooth texture, robust durability and the subtle interaction with light and surroundings to offer designers new visual perspectives too. Key criteria which Julien de Smedt specifically utilised for the Holmenkollen ski-jump.

A sparkling protective mantle for the lords of the skies

In the first construction phase, completed for the Ski Jumping World Cup in March 2010, the steel lattice structure was clad with 4,300 m² of Sambesi light and PC-Sambesi. The GKD mesh types differ in having either flexible cables (Sambesi) or rigid wires (PC-Sambesi) in the warp direction. In keeping with their function as a comprehensive wind filter, both mesh types are designed for extreme wind loads. A total of 315 units of Sambesi light, each measuring 12x1 metres, was fitted to the entire exterior of the steel structure with round rods and eye bolts. 130 units of PC-Sambesi rod mesh were tilted laterally and fitted in the steel structure on the inside of the jump platform such that it can be replaced or removed. A mesh size of 150x200mm in the area around the lamps facilitates the surface illumination of the mesh. The GKD team faced the particular challenge of carrying out the installation in winter temperatures of down to minus 32 °C and a biting wind blowing across the hill. The second phase, to be completed by



WORLD WIDE WEAVE

autumn 2010, will see a further 3,000m² of mesh installed in much more pleasant conditions.

Sky-high expectations

The new Holmenkollen was officially opened in time for the Ski Jumping and Nordic Combined World Cup in March. As host venue of the Nordic World Ski Championships starting in late February 2011 the oldest ski jump in the world will finally join the winter sports elite: having already hosted the Winter Olympics in 1952, it will stage the Nordic World Ski Championships for the fourth time next year. Rich in tradition but also brand new, Holmenkollen is a pioneering landmark. Gleaming by day and lighting up the sky by night, its silhouette makes it a shining symbol of a legend very much alive and kicking.

6.054 characters incl. spaces

GKD – WORLD WIDE WEAVE

As a privately owned technical weaver, GKD - Gebr. Kufferath AG is the world market leader in metal, synthetic and spiral mesh solutions. Four independent business divisions bundle their expertise under one roof: Industrial Mesh (woven metal mesh and filter solutions), Process Belts (belts made of mesh and spirals), Architectural meshes (façades, safety and interior design made of metal fabrics) and Mediamesh[®] (Transparent media façades). With its headquarter in Germany and five other facilities in the US, South Africa, China, India and Chile – as well as its branches in



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France, Spain, Dubai and worldwide representatives, GKD is close to markets anywhere in the world.

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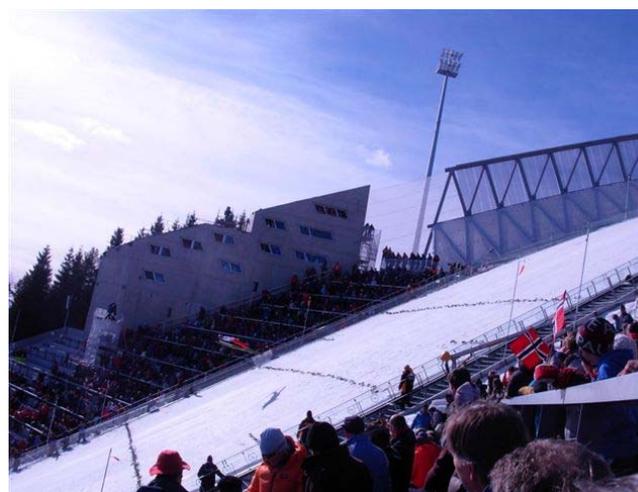
Picture 1: The new construction of the world famous Holmenkollen ski jump began in 2009 at the same site.



Picture 2: Julien de Smedt (JDS architects) designed a puristic steel framework structure to withstand harsh weathering by wind and snow.



Picture 3: Holmenkollen is a shrine of Nordic winter sports.



Picture 4: The cladding of stainless steel mesh serves as a wind filter for the protection of the athletes.

Pictures 1-7 © GKD

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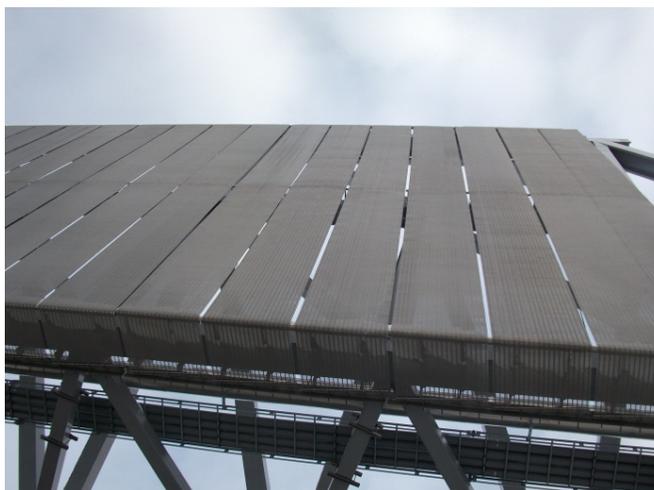
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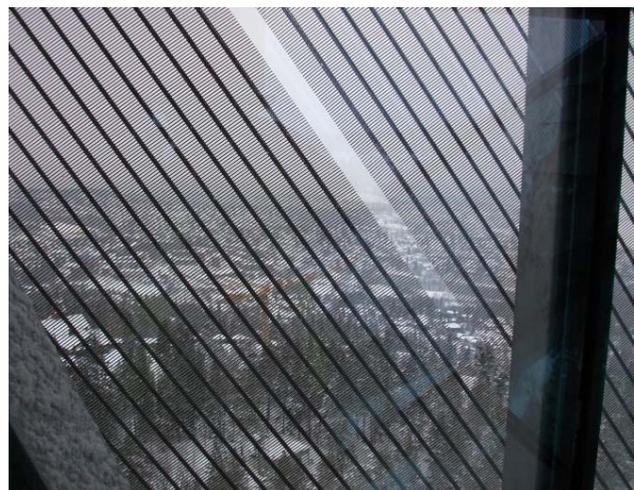


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Picture 5: What fascinates is the stainless steel mesh covering the whole of its gigantic steel structure.



Picture 6: The steel lattice structure was clad amongst others with 3,780 m² of Sambesi light.



Picture 7: In keeping with their function as a comprehensive wind filter, the mesh types Sambesi light and PC-Sambesi are designed for extreme wind loads.

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