

2021.8/9 Mon
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1st Submission

Philosophy & Idea

1. Location & Design idea

First of all, regarding the location, our team thinks that there are two main features of this site.

The first is the historical architecture of the site. Both sides of the street are lined with traditional buildings that form the landscape of the area.

The second is the richness of nature. Many visitors come here for the skiing and the natural scenery. Many visitors come here for the skiing and the natural scenery.

Therefore, we propose an architecture that mimics the forest. Without interfering with the landscape formed by many traditional buildings, we will create an architecture that makes the most of the nature of the mountains and connects visitors with nature and the traditions of this region.

2. Energy saving & Environmental protection

According to pictures below left hand, we can know the whole year average temperature in Semmering is low, but the sunshine is sufficient. There are 200 hours of solar radiation every month in spring and summer. Therefore, the visitor center is suitable to be designed as a Passive house, where we can adopt the thermal from solar room.

Without ventilation or thermal mass, the temperatures of spaces having large areas of south-facing windows will fluctuate widely. If a sun heated room is permitted to have wider-than-normal temperature fluctuation, the costs of thermal mass (to store heat) and movable insulation (to reduce heat loss) will be avoided. The excess thermal from "solar room" can heat the house immediately, or if mass is added, heat can be stored for later use after the sun sets. It is obvious that, the solar room will warmer than the outdoor temperature, thus we can reduce heat loss from the building where the room is attached.

Additionally, Solar room is designed both to maximize solar gain and to minimize heat loss. Besides, visitors can have a great view of nature scene through the window. It connects the

indoor space and outdoor space making visitors integrated with forest. Even in winter visitors can also feel the warm of sunshine which will make them feel better.

For the materials we use the glasses which combining solar control with Low E Thermal insulation in one double glazing unit.

The latest type of double-glazing window solutions for solar control reflect and filter the sun's rays, allowing natural daylight into the room, without uncomfortable visual glare.

Rooms can be kept cooler during sunny periods which reducing the need for air-conditioning systems.

Solar control glass can be incorporated into double glazing window with combinations of self-cleaning, Low E and decorative glass solutions. Combining solar control glass with Low E thermal insulation in one double glazing unit, offering optimum temperature comfort all year round.

A solar control glass is a glass with a special coating designed to reduce the amount of heat entering to buildings. It reflects and absorbs heat as well as filtering light for reduced glare. It also helps to prevent the heat during hot summer months.

3. Function

As a tourist resort, Semmering has a scene suitable for tourists all year round. In terms of natural scenery, the proximity to the Alps gives this place unparalleled natural scenery. In summer, many tourists come to cycling and hiking to enjoy the beautiful scenery. When it snows in winter, it becomes a holiday paradise for skiers. In addition to the natural scenery, Semmering also owns the world civilized Semmering railway. As a project built in the 19th century, Semmering railway still continues its mission. This project is one of the greatest civil engineering projects in Europe. Therefore, considering the natural and cultural scenery of Semmering, we will use our visitor center to introduce this beautiful resort to tourists Besides, providing the rest and viewing platform for tourists to experience the charm of Semmering more deeply.

Our design has the function of serving as a visitor center. Additionally, as the innovation points, we will provide a sharing area for tourists to introduce cycling and hiking routes and an experience area for tourists to provide skiing experience combined with modern technology. Secondly, we will combine solar room. with the glass of solar room to create a good viewing platform while saving energy and provide visitors with beautiful scenery.

In order to let visitors better understand the charm of Semmering railway and give consideration to the introduction of natural scenery, we will also open the centennial history exhibition of Semmering railway to let people understand the history of this railway in a deeper level from the two aspects of heart and sight.