Wall Assembly and Material Analysis

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**Wall Assembly and Material Analysis**

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**Abstract**

We researched the thought process and reasoning behind the design of wall assemblies from start to finish. We explored the specific reasoning for placement and use of various materials in the wall and brought insight into the reasoning core. The wall assembly is one of the fundamental components of the building's envelope, and its function can be directly linked to the building's overall performance. In addition, wall assemblies are the interface for people and the building's systems. This research was conducted to better understand the wall assembly's construction and performance. The project consists of two new buildings and a plaza space. The building program consists of classrooms, open study rooms, a cafeteria, and general office spaces. The research was done in the Portland State University's Green Building Research Lab where material testing is performed to gain insight into the thermal properties of various materials. This research is intended to provide insights into the design, construction, and performance of wall assemblies in an academic building.

**Research**

The project consists of two new buildings and a plaza space. The building program consists of classrooms, open study rooms, a cafeteria, and general office spaces. The research was done in the Portland State University’s Green Building Research Lab where material testing is performed to gain insight into the thermal properties of various materials. This research is intended to provide insights into the design, construction, and performance of wall assemblies in an academic building.

**Introduction**

The basic components of a wall follow: an air and ultraviolet light control layer, an air control layer, a vapor control layer, and a thermal control layer. To best present the wall assembly to the public, it has been placed on the exterior of the structure (Lstiburek, 2007). Each material has been selected to perform the above mentioned tasks effectively.

**Construction**

The wall assembly is one of the fundamental components of the building’s envelope, and its function can be directly linked to the building’s overall performance. In addition, wall assemblies are the interface for people and the building’s systems. This research was conducted to better understand the wall assembly’s construction and performance. The project consists of two new buildings and a plaza space. The building program consists of classrooms, open study rooms, a cafeteria, and general office spaces. The research was done in the Portland State University’s Green Building Research Lab where material testing is performed to gain insight into the thermal properties of various materials. This research is intended to provide insights into the design, construction, and performance of wall assemblies in an academic building.

**Conclusion**

The project consists of two new buildings and a plaza space. The building program consists of classrooms, open study rooms, a cafeteria, and general office spaces. The research was done in the Portland State University’s Green Building Research Lab where material testing is performed to gain insight into the thermal properties of various materials. This research is intended to provide insights into the design, construction, and performance of wall assemblies in an academic building.