High-Performance fluoropolymer film [Fluon_® ETFE Film] to be used for Japan Pavilion in Expo 2010 Shanghai China



AGC (Asahi Glass Co., Ltd.; Head office: Tokyo; President & CEO: Kazuhiko Ishimura) hereby announces that its high-performance fluoropolymer film [Fluon_® ETFE Film] will be used for the Japan pavilion Zi Can Dao in the Expo 2010 Shanghai China, which is scheduled to be held in 2010.

The Japan pavilion was designed intended to give an image of a structure that breathes like a living organism. Due to its unique features, the building was named "Zi Can Dao (purple silkworm island)." It combines traditional Japanese knowledge for living in harmony with the environment, such as *ennoshita* (the utility space under verandas) and *uchimizu* (the sprinkling of water by hands to reduce heat) with the latest environmental control and materials technology.

[Fluon_® ETFE Film], which will be used as membrane material in this pavilion, is a film produced from high-performance fluorores, which AGC manufactures through integrated production including all materials. With its excellent heat resistance, chemical resistance, non-adhesive characteristics, electric properties, weatherability, and transparency, [Fluon_® ETFE Film] has been widely used in the fields of electronics, aerospace and solar cells, in the kitchen, wallpaper, greenhouses, and other situations since its launch in 1975. In recent years, [Fluon_® ETFE Film] has been also used increasingly as a construction material, mainly overseas; examples include the Allianz-Arena football stadium in Munich, Germany, and swimming pools, general exercise grounds, and similar facilities in Beijing, China.

Features of Zi Can Dao	Description	Characteristics of [Fluon _® ETFE Film]
Lightweight construction	The total building weight can be reduced by adopting the lightweight membrane system structure.	 Is light and places less of a burden on the structure. In terms of design, enables curvilinear processing. Does not easily deteriorate and has a long life span.
Eco Tube system	The environmental burden can be lessened by using natural energy including sunlight, rainwater, and air in an environmental circulation system fully integrated into the internal structure of the building (supporting columns).	
Electricity generating membrane	External membranes themselves can generate 20-30 kW electricity by installing amorphous solar cells between the layers of [Fluon [®] ETFE Film].	 Is transparent and thus allows enough light to pass through. Does not easily deteriorate and has a long life span.

The characteristics of the materials that realize the unique structure and functions of Zi Can Dao are as shown in the following table.

The AGC Group produces many construction materials, including $[Fluon_{\circledast} ETFE Film]$, a high-performance fluoropolymer film; LUMIFLON[®], high-weatherability fluoropolymer for coatings; Sunbalance[®], high-thermal insulation eco-glass; and more. We will continue to develop and supply high-quality products that contribute to reducing environmental impact by utilizing our comprehensive capabilities in glass and chemicals.

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Reference

1. Outline of the Japan pavilion "Zi Can Dao" in the 2010 World's Fair in Shanghai, China

The concept behind the construction of the Japan pavilion is Eco-Breathing Architecture - a structure that breathes like a living organism.









2.

- Cool air is let into the room from underground, while air warmed in the room is released through the roof.
- Rainwater is accumulated using Eco Tubes, and accumulated rainwater is sprayed on the roof to c the entire building.
- Sunlight is let into the pavilion using Eco Tubes.
- Wind (air) is let into the pavilion using Eco Tubes. In addition, cool air under the floor is lifted by applying the chimney effect of Eco Tubes and sent into the pavilion, reducing the air conditioning load.



3. Electricity generating membrane

Air is sent between two ETFE films to inflate the space,

and then amorphous solar cells are installed in the inflated

space to generate electricity.

