

Major National Policies.....

Several Policies are Underway to Promote the Use of Fluorocarbon-Free Building Insulations

1) Law Concerning the Promotion of Procurement of Eco-Friendly Goods and Services by the State and Other Entities (Law on Promoting Green Purchasing)

In accordance with the Law on Promoting Green Purchasing, evaluation criteria and factors for consideration in procurement of specific products are specified in the "Basic Policy on the Promotion of Procurement of Eco-friendly Goods"

The evaluation criteria and factors for consideration for insulation for public works are shown in the table below. Government entities must fulfill the evaluation criteria and consider the factors for consideration when purchasing thermal insulation.



Evaluation Criteria and Factors for Consideration for Thermal Insulation from the Law on Promoting Green Purchasing (extract)

Evaluation criteria	Materials that prevent loss of heat through the outer walls of buildings, and meet the criteria below.
	① May not use materials harmful to the ozone layer.
	② May not use hydro-fluorocarbons (replacement carbon).
	③~④ Omitted
Factors for consideration	Insulation materials made of plastic foam must maintain long term insulation performance, and use materials that have a global warming potential that is as small as possible.

Source: Basic Policy on the Promotion of Procurement of Eco-friendly Goods (Partly revised by the Cabinet on 5th February 2008)

2) Revision of Japanese Industrial Standards (JIS)

In 2006, JISs concerning sprayed-type rigid urethane foam for building insulation (JIS A 9526:2006R) and foam plastic insulation materials (JIS A 9511:2006R) were successively revised. This makes the type of blowing agent used easy to identify and the wider uptake of fluorocarbon-free products can be expected.

Type A: Products that use, as blowing agents, hydrocarbon and carbon dioxide (CO₂) etc., not fluorocarbons*

Type B: Products that use fluorocarbons as blowing agents

* In the case of JIS A 9526, carbon dioxide (CO₂) only

3) Revision of Public Works Standard Specifications

In February 2007, the "Public Works Standard Specifications" and "Public Works Standard Specifications for Repair Works" were revised. In accordance with the revision in JISs, it was clearly specified that, unless there are special circumstances, fluorocarbon-free (JIS Type A) products should be used in methods for placing insulation in reinforced concrete in interior construction and also methods for spraying foams in public works. It is expected that due to this revision the uptake of fluorocarbon-free insulation will be accelerated in public works.

4) CASBEE: Comprehensive Assessment System for Building Environmental Efficiency

The CASBEE system is being developed and promoted by the Ministry of Land, Infrastructure and Transport to improve energy efficiency and reduce the environmental impact of houses and other buildings. CASBEE is a comprehensive system to assess the environmental performance of buildings. One of the assessment items is "avoidance of fluorocarbons and halons", in which fluorocarbon-free insulation is ranked at the highest level 5 for being an environmentally friendly product.

In building a house, while it is important to improve insulation performance, it is also important to choose fluorocarbon-free insulation to gain further climate benefit.

Fluorocarbon-Free Air Dusters.....

What is an air duster?



Air dusters, which emit a jet of high pressure gas, are used widely in maintenance of office appliances (computers, office automation equipment etc.) as well as precision equipment in factories and laboratories (electronic and optical equipment etc.), ATMs in banks and convenience stores, and automatic ticket gates etc. in stations, with the purpose of removing dust and static electricity and cooling the object. The demand for air dusters has grown strongly in parallel with the popularization

of computers etc. and in recent years approximately 6 million cans are sold every year.

Up to now, fluorocarbons have been used as the propellant in air dusters. As air dusters function by emitting the gas, all of the fluorocarbons are emitted to the atmosphere through the use of air dusters. In 2006, some 800,000 tons of CO₂ equivalent were emitted through air dusters, and this is equivalent to the CO₂ emissions of 80,000 people



under the assumption that a Japanese citizen be responsible for 10 tons.

The fluorocarbon propellants used in air dusters have changed from CFCs and HCFCs, the production of which is controlled under the Montreal Protocol, to HFCs which are one of the target gases of the Kyoto Protocol. Among various types of HFCs, there has been a shift of propellant from HFC134a with high GWP to HFC152a with lower GWP. Additionally, products using Dimethyl Ether (DME) or CO₂ as alternatives to fluorocarbons have recently begun to be marketed.

Comparison of Fluorocarbon-Based and Fluorocarbon-Free Products

	Name	Inflammability	Odor	GWP	Type	Pressure
fluorocarbon-based products	HFC134a	non-flammable	none	1430	aerosol can	low
	HFC152a	inflammable	none	124	aerosol can	low
	HFC152a/DME	inflammable	slight odor	<124	aerosol can	low
fluorocarbon-free products	DME/CO ₂	inflammable	slight odor	<1	aerosol can	low
	CO ₂	non-flammable	none	1	high-pressure gas cylinder	high