EFCTC NEWSLETTER

An update on fluorocarbons and sulfur hexafluoride

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HFC HEAT PUMP IN A GERMAN INNOVATIVE ENERGY PROJECT

The construction of a new sheltered workshop for handicapped persons in Lindenberg, South Germany, was the opportunity for an innovative concept, which includes groundwater heat pumps using HFC R407C. The project was funded by the German Ministry of Economics and Technology (BMWi).

The wooden building accommodates 140 to 200 workplaces in the workshop, 40 administrative workplaces and a recreation area. The heated floor area is higher than 3,000 m^2 and the heated volume over 25,000m^3.

The buildings are equipped with a forced ventilation system, taking into account high ceilings – up to 18 meters – in the workshops). The exhaust air heat exchangers have an efficiency of 70%.

Space heating coming from the three installed HFC heat pumps (capacity 53 kW each) is distributed via a floor heating system. The groundwater is extracted from the supply well and after use in the heat pump fed into a creek nearby.

A wood pellet boiler (capacity 140 kW) covers the peak load, and provides high temperature heat for domestic hot water, ceiling radiation heaters and heater coils in the ventilation system.

The northward located workshops have ceiling radiation heaters. Solar heated air from the workshops can be used in the offices located upstairs as preheated fresh air.

Source:
http://groundreach.fiz-karlsruhe.de/en/bestpractice/bp32.html and
http://www.lichtblau-architekten.de/lindenberg.html (in German)

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US ARMY TENTS IN MIDDLE EAST INSULATED WITH HFC BLOWN SPRAY POLYURETHANE FOAM

For its operations in the Middle East, the US Army is planning to insulate more than one million m^2 of tents with HFC blown spray polyurethane foam. The insulation will reduce the use of fuel for air conditioning and make soldiers living conditions more comfortable.

HFC blown spray foam is projected on the tent, creating a 5 cm insulation layer. The foam insulation saves fuel used to generate power to run the air conditioning system. Power use can be reduced between 40 and 75 percent, saving fuel and money, and protecting the environment.

Experience showed, for example, that after having applied insulating foam on a large tent, instead of running eight air conditioning units full time which could hardly get the temperature inside the tent down to 30 C, it was possible to use only two air conditioning units and at the same time bring the inside temperature close to 20 C.

The Army will put foam insulation in new as well as in existing tents. Besides saving fuel, the insulation foam improves conditions inside the tent by keeping tents warmer in cold weather and reducing the heat coming in during hot weather.

The Army plans to mandate that all structures expected to remain standing for more than six months must be insulated, most likely with sprayed foam.

Sources : http://www.armytimes.com/news/2009/05/army_foam_050209w/ and http://www.army.mil/-news/2009/05/07/20777-army-saves-fuel-and-lives-by-bringing-new-life-to-an-old-technology/

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NEW MONTREAL PROTOCOL'S TEAP REPORT CONFIRMS HFCs EMISSIONS WELL BELOW 2 % OF GLOBAL GREENHOUSE GAS EMISSIONS BY 2015

The Montreal Protocol's TEAP Report "ASSESSMENT OF ALTERNATIVES TO HCFCs AND HFCs AND UPDATE OF THE TEAP 2005 SUPPLEMENT REPORT DATA" of May 2009 has been released. It updates the results from the earlier 2005 Report.

The Report provides projections of HFC Emissions for the years 2015 and 2020, based on two scenarios: BAU (Business as Usual) and MIT (With mitigation measures). All the resulting numbers are below the earlier projections of 2% of global GHG emissions.

HFC emissions were 208 million tonnes CO_2-eq (less than 0.5 % of total GHG emissions) in 2002. They are projected to reach respectively 656 (BAU) or 459 (MIT) million tones CO_2eq by 2015, representing respectively 1.3 and 0.9 % of the global GHG emissions.

HFC emissions are foreseen to grow moderately by 2020 (respectively 794 and 493 million tonnes CO_2eq), with a much larger increase in developing countries, following the HCFC phase-out in these countries.

COMPREHENSIVE CONTROL SYSTEM PROVIDING SIGNIFICANT REDUCTIONS IN ENERGY CONSUMPTION

A comprehensive control system, able to control a large estate (supermarket, distribution centre, hospital, etc) from a single point, can significantly reduce the final energy consumption. Energy consuming refrigeration, heating, ventilating and lighting devices are monitored and optimized in real time.

The starting point is to identify a plant that is not operating to design specification, and to optimize its performance. Many refrigeration units do not operate as designed, either as a result of poor maintenance and servicing or due to under- or over-charging of refrigerant. In both cases, equipment will operate inefficiently and use too much power for its duty compared to its original specification.

Energy is a big cost to many estates, and its use in refrigeration is a significant component. Average savings are claimed to be around 12 per cent, but savings up to 30 percent could be obtained, reducing the environmental impact of the building.

The advanced modular control system is designed for use in all applications where control of temperatures is required, such as supermarkets, factories, warehouses, hospitals, hotels, restaurants, or even pubs.

Covering existing, retrofitted or new buildings, the system will be a useful tool to highlight places, units, or pieces of plant that would need action for the energy certification process required under the Energy Performance of Buildings Regulation.

Source : Equipment Manufacturer

NEW ON FIGAROO

Implementation and Compliance

Sectors Specific Information to be added when available.

F-Gas Regulation impact on manufacturers and users of SF_6-Electric power Equipment.

NEW LINKS ADDED

European Institutions – DG ENERGY

BUILD UP: The European Portal for Energy Efficiency in Buildings.
http://www.buildup.eu