

3 MATERIALS ASPECTS 3.P PREREQUISITE

MA P2 USE OF NON-CFC BASED REFRIGERANTS

EXCLUSIONS	None.
OBJECTIVE	Reduce the release of chlorofluorocarbon into the atmosphere.
REQUIREMENT	Using non-chlorofluorocarbon (CFC)-based refrigerants in HVAC&R systems.

ASSESSMENT	The Client shall submit a report by a suitably qualified person giving details of the HVAC&R system installed and demonstrating that no chlorofluorocarbon (CFC)-based refrigerants are being used in the HVAC&R systems.
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BACKGROUND	<p>Chlorofluorocarbons (CFCs) are the major contributory substances of serious ozone depletion. The reaction between a CFC and an ozone molecule in the earth's stratosphere contributes to catalytic destruction of ozone. Due to ozone depletion, increased UV exposure leads to increases in skin cancer (e.g. Malignant Melanoma and Cortical Cataracts), damage to plants, and reduction of plankton population in the ocean's photic zone.</p> <p>In 1985, the Antarctic ozone hole was discovered, causing worldwide concern. In 1987, representatives from 43 nations signed the Montreal Protocol to limit CFC usage. At Montreal, the participants agreed to freeze production and phase-out use of CFCs. Since the adoption and strengthening of the Montreal Protocol, the usage and emissions of CFCs has reduced.</p> <p>The U.S. Environmental Protection Agency (U.S.EPA) has developed and implemented regulations for management of ozone depletion substances (ODSs) in the United States. The regulations include programs that ended the production of ODSs and require the manufacturers to label products either containing or made with chemicals that have significant ODSs.</p> <p>In Hong Kong, the Ozone Layer Protection Ordinance (Cap. 403) 1989 [1] gives effect to Hong Kong's international obligations to control the manufacture, import and export of ozone depleting substances. Ozone Layer Protection (Controlled Refrigerants) Regulation 1994 [2] requires the conservation of controlled refrigerants used in large scale installations and motor vehicles. Ozone Layer Protection (Products Containing Scheduled Substances) (Import Banning) Regulation 1993 prohibits the import of portable fire extinguishers containing halons and other controlled products from a country or place which is not a party to the Montreal Protocol, unless the Authority considers that it complies with the requirements of the Protocol.</p> <p>Banning the usage of CFCs in refrigerants slows the ozone depletion and global climate change. Non-CFC building equipment has standard specification. New non-CFC HVAC&R equipment is cost and energy effective. Selecting non-CFC HVAC&R equipment may increase energy saving and equipment efficiencies.</p>
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1 Environmental Protection Department. A Concise Guide to the Ozone Layer Protection Ordinance. http://www.epd.gov.hk/epd/english/laws_regulations/comp_guides/files/cgto_olpo_eng.pdf

2 Environmental Protection Department. A Concise Guide to the Ozone Layer Protection (Controlled Refrigerants) Regulation. http://www.epd.gov.hk/epd/english/laws_regulations/comp_guides/files/cgt_olp_cr_eng.pdf