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Our Ref: OM-DE/051

11 July 1997

MEMORANDUM

To : ALL ENGINEERING STAFF

From : Andrew Loh

Subject : **DESIGN CONTROL**
CONCEALED CEILING/RAISED FLOOR SPACE
USED AS SUPPLY/RETURN PLENUM

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1. Please ensure that all cables within ceiling space or raised floor space which is used as return or supply air plenum shall be enclosed in metal trunking/conduit or metal sheathed type of cable if exposed and run on cable tray/laddle.

2. Pipes shall be non-combustible material conveying non-flammable liquids.

3. Page 132 of the Code of Practice of Fire Precautions in Buildings is attached for your reference.

ANDREW LOH

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FYC/RT/TLS - please update master spec & drgs]
ARR/KI - Drawing Office] with encl
Notice Board/Memo File]

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ii) Notwithstanding the requirements of Cl. i), the use of plastic and foam rubber insulation materials of a lower classification may be permissible if:

Plastic and foam rubber insulation

*the material is the self-extinguishing type to the satisfaction of the relevant Authority;

*the insulation material is covered by or encased in a metal sheath or hybrid plaster or other non-combustible cladding materials acceptable to the Relevant Authority.

provided that any opening in the element of structure or other part of a building penetrated by the pipework shall be effectively fire-stopped by replacement of the insulation material at the junction of penetration with fire resistant material having equal fire rating. Fire rated proprietary pipework system may be used if it is tested in the manner acceptable to the Relevant Authority.

(d) Enclosure of ducts shall comply with the requirements in Cl. 3.8.9(a).

Duct enclosure

(e) Ventilation ducts should not pass through smoke-stop or fire fighting lobby. Where unavoidable, the part of the ventilation duct within the lobby shall be enclosed in construction with fire resistance rating at least equal to that of the elements of structure. Such construction shall be in masonry. If other form of fire resisting construction is used, fire damper shall be fitted where the duct penetrates the lobby enclosure.

Ductwork through smoke-stop or fire fighting lobbies

(f) A concealed space between the ceiling and floor above it, ceiling and roof, or raised floor and structural floor of a building may be used as a plenum provided that-

Plenum

i) The concealed space contains only:

*mineral-insulated metal-sheathed cable, aluminium-sheathed cable, copper-sheathed cable, rigid metal conduit, enclosed metal trunking, flexible metal conduit, liquid-tight flexible metal conduit in lengths not more than 2 m, or metal-clad cables;

*electric equipment that is permitted within the concealed spaces of such structures if the wiring materials, including fixtures, are suitable for the expected ambient temperature to which they will be subjected;

*other ventilation ducts complying with Cl. (b);

*communication cables for computers, television, telephone and inter- communication system;

*fire protection installations;

*pipes of non-combustible material conveying non-flammable liquids.

ii) The supports for the ceiling membrane are of non-combustible material having a melting point of at least 800°C.