

Finesse Office Systems is a range of demountable partition systems which is assembled on site in accordance with the manufacturers recommendations. There is no overall guide to the safety in the use and handling of such a variety of materials that are incorporated within the finished product and therefore there is no overall guide to the use, safety and the handling of such materials. This document has been produced by compiling extracts from the manufacturers and suppliers own safety advice.

The extracts given are by no means exhaustive and cannot cover all the possible combinations of materials specified for use or used with the Finesse range.

The following therefore addresses these materials which are generally used with these products or used to manufacture the product. More detailed and specific information can be obtained from the manufacturers of the materials upon request.

(1). **GENERAL SITE USAGE**

In the overall use of **Finesse** in 75mm and 100mm configurations, **Crystal** in 25mm configurations and **Crystal DG** in 75mm configurations all the above will be referred to as **FOS** the following recommendations should be followed:

- (1). Always use materials supplied in the manner for which they were intended. Reference should be made to our **Specification, Fixing guides** (which describe materials and usage). At all times and in all circumstances materials used are not fit for human consumption and should only be used for the installation of demountable partition systems.
- (2). Where board, panel or fibrous materials are planed, cut, sanded or otherwise machined or subjected to any site preparation which creates dust then the appropriate respiratory precautions should be taken. When possible always protect adjacent areas from the effects of dust contamination using suitable screening and extraction procedures where necessary (refer to EH40 for exposure information).
- (3). If due to contact with dust it causes skin irritation then stop the activity immediately that is creating the dust and wash affected area with clean lukewarm or cold water. Only re-commence activity after the cause has been established and when suitable preventative measures have been taken. For example apply barrier cream to the hands will help to prevent the skin irritation. In all situations wear protective clothing which will reduce the risk of exposure to such hazards.
- (4). If respiratory irritation is suspected move away from the contaminated area to a well ventilated area until respiration becomes normal. If this does not stop the problem seek urgent medical advice.
- (5). The assembly of **FOS** involves the use of metal cutting, drilling and other forms of machining where it meets floor, wall, ceiling and overhead bulkheads and other situations. Wear protective eye glasses or shields at all times and wear suitable protective gloves to prevent hazards from sharp metal sections or alloy profiles. All **FOS** metal or alloy profiles as once cut on site these materials do have sharp edges and should be handled with great care.
- (6). Be aware of electrical wiring in close proximity to the partition installation area and take care not to bring the metal or alloy framework into contact with electrical sources. Particular care must be taken when installing switches within the system. Always ensure that the cabling to the switch is totally isolated from the supply before either removing or terminating the switch wiring. Ensure that the partition framing is fully earth bonded and that the earth connection makes good contact with a bare metal surface and not a coated surface (such as powder coated alloy sections).
- (7). Take care when heating Heat Shrinkable Shrouds used for insulating switches, this may create fumes which can cause breathing difficulties in some personnel. Always use in a well ventilated area, or provide additional ventilation to extract fumes.
- (8). When handling PVC or UPVC materials take care as these may become statically charged. Any resulting spark could ignite adjacent inflammable atmosphere. Always take great care in case of flammable fumes and note location of suitable fire extinguishers.



(9). Most sealants, adhesives, jointing compounds and aerosols contain flammable gases or emit fumes during the application and curing process. Always use in well ventilated areas, if this is not possible ensure operator or operatives are equipped with the correct respiratory apparatus and take the correct fire precautions. All flammable materials are clearly marked on their packaging together with safety instructions which must be followed (if you find they are not displayed do not use the product). Always store flammable substances in a fire proof enclosure which should be clearly marked where possible and keep a suitably charged extinguisher adjacent to this storage area.

(10).Whenever there is any doubt as to the safety of a material please consult the technical department of that product.

(11).If any irritation or side effect of handling materials persists then seek medical advice as soon as possible. It will be of assistance if you could take a label from or a sample sample of the suspected material, for examination by your medical adviser.PLEASE KEEP THIS SEALED DURING

TRANSPORTATION.

(12).Always ensure that the operator or operatives clean their hands following the handling of any materials used in **FOS**. Particular care should be taken before handling food or other consumables which could transmit contamination into the mouth, or the rubbing of the eyes.

(13).Where an operation could effect other personnel in the vicinity of the work being carried out, make sure that the safety officer and or any other responsible person is advised of the potential danger, and agree on any precautions that may be required before work proceeds.

STORAGE AND DISPOSAL (unless indicated otherwise on product packaging)

(2). STORAGE

(1). All products should be stored in a clean dry area, away from excessive heat and where applicable the area may need to be ventilated.

(2). Keep all flammable materials in a protected storage area with suitable access to the correct type of extinguisher.

(3). Ensure that materials do not block any means of fire escape or public walkway and do not create a hazard to others that may be working in that area.

(4). Protect ends of any sharp metal, alloy, timber or plastic section, particularly where they protrude onto walk-ways or access routes. Where possible avoid storing such materials adjacent to entry and exit routes. Always erect warning signs in public areas

(5). When all types packaging has been removed ensure it is not left on the floor where it can trip up other operatives or form a fire hazard.

(3). DISPOSAL

(1). Dispose of excess material and packaging waste only in accordance with local authority regulations, do not burn any waste material as it may cause toxic fumes (please contact your local authority for the appropriate regulations).

(2). Do not dispose of any waste materials into a sewer or waterways, only use approved disposal sites as licensed by the local authority. (please contact your local authority for the appropriate site locations).



APPENDIX 1

EXTRACTS FROM SUPPLIERS INFORMATION

MINERAL WOOL

The Institute for Research on Cancer (IARC) has concluded that mineral wool should be classified as "possibly carcinogenic" The DHSS committee on Carcinogenicity has concluded that it would be prudent to act on the basis that sufficient exposure to man made mineral fibres in industry may increase the risk of lung cancer among the work-force.

A comprehensive international research programme has been completed covering epidemiological, animal and hygiene studies. The reports of cancer excess in workers with 30 or more years since first exposure in some rock wool plants deserves more study and must be carefully balanced against the large body of scientific information involving human and animal studies, where no increased risk of disease is suggested. There has been no increase in non-malignant respiratory disease and no increased risk of mesothelioma. However in situation where mineral wool is being handled, steps should be taken to ensure that exposure to dust is kept to a minimum reasonable level and not in excess of control limits.

FIRE The product does not constitute a fire hazard, although some facings may burn or give off smoke when exposed to fire.

STORAGE No special precautions are required, materials should be stored in a dry place.

RESPIRATORY PROTECTION When installing mineral wool it is recommended that a suitable disposable face mask to BS6016 is worn.

CLOTHING Avoid clothing with tight constraints at the neck and wrists, and always wash separately from normal day to day clothing.

SKIN IRRITATION Always wear gloves when handling material. If irritation is experienced it can be lessened or sometimes prevented by rinsing under running cold water before applying soap when washing.

BARRIER CREAMS Can help some skin types but are a matter of personal choice.

EYE PROTECTION Always use when applying material overhead.

PERSONAL HYGIENE Always maintain adequate standards of personal hygiene.

WASTE DISPOSAL The material is not hazardous and should be disposed of in accordance with local authority regulations.

EMERGENCY ACTION If excessive irritation of the skin, eyes or throat persist then consult with a doctor immediately.

ADDITIONAL INFORMATION H & SE guidance notes: EH46 and EH40



APPENDIX 2

EXTRACTS FROM SUPPLIER INFORMATION**PLASTERBOARD****FIRE**

The product does not constitute a fire hazard, although facings may burn when exposed to fire.

STORAGE

Always carry boards singly on one edge, do not drag one board over the other - materials should be stored in a dry place protected against damp on a level surface. Maximum stack height should be 1000mm.

RESPIRATORY PROTECTION When cutting or sanding plasterboard in confined spaces it is recommended that a suitable disposable face mask to BS6016 is worn. Use dust extraction if dust levels cannot be controlled by ventilation.

CLOTHING Avoid clothing with tight constrictions at neck and wrists and always wash separately from normal family clothing.

SKIN IRRITATION Wear gloves when handling. If irritation is experienced it can be lessened or sometimes prevented by rinsing under cold running water before applying soap when washing.

BARRIER CREAMS Can help some skin types but are a matter of personal choice.

EYE PROTECTION Always use when cutting or sanding plasterboards. If dust enters eye then wash with plenty of clean water.

PERSONAL HYGIENE

Always maintain adequate standards of personal hygiene. If gypsum dust is swallowed wash out mouth and drink plenty of water. There are no biological hazards from the intake of Gypsum dust.

WASTE DISPOSAL

The material is not hazardous and should be disposed of in accordance with local regulations at a tip designated for building products.

EMERGENCY ACTION If excessive irritation of the skin, eyes or throat persist then consult with a doctor immediately.

ADDITIONAL INFORMATION H & SE guidance notes: EH40

EXPOSURE LIMITS Total inhalable dust = 10mg/m³ hour time weighted average
Respirable dust = 5mg/m³ hour time weighted average



APPENDIX 3

EXTRACTS FROM SUPPLIER INFORMATION

ALUMINIUM PROFILES

FIRE The product does not constitute a fire hazard, although packing materials do constitute a fire risk if exposed to heat.

STORAGE Avoid metal being dragged over metal which may create swarf and damage significant surfaces. Ensure that cut ends are kept away from personnel and that the section do not protrude into access or walk-ways.

RESPIRATORY PROTECTION With normal cutting and drilling airborne dust is not created.

CLOTHING

Avoid swarf granules collecting in clothing and wear overalls to prevent swarf penetrating to skin. Always wash separately from normal family clothing.

SKIN IRRITATION

Wear gloves when handling to prevent laceration from cut ends. Materials are supplied with "soft" ends to prevent accidental damage. However materials processed at site will have cut ends which must be handled with care.

BARRIER CREAMS Should not be required.

CONDUCTION Avoid contact with overhead wires and electrical installations during handling. Aluminium is a very good conductor.

EYE PROTECTION Always use when cutting or drilling aluminium profiles. If swarf enters eye then wash with an eye bath. Consult doctor immediately.

PERSONAL HYGIENE Always maintain adequate standards of personal hygiene. If aluminium swarf is swallowed wash out mouth and consult a doctor immediately.

WASTE DISPOSAL The material is not hazardous and should be disposed of in accordance with local regulations at a tip designated for building products.

EMERGENCY ACTION If laceration of the skin occurs, treat using standard first aid, if swarf is swallowed or enters eyes, consult with a doctor immediately.



APPENDIX 3 part "2"

EXTRACTS FROM SUPPLIER INFORMATION

STEEL SECTIONS

FIRE The product does not constitute a fire hazard.

STORAGE Avoid metal being dragged over metal which may create swarf Ensure that cut ends are protected and do not protrude into access or walk-ways.

RESPIRATORY PROTECTION With normal cutting and drilling airborne dust is not created.

CLOTHING Avoid swarf granules collecting in clothing and wear overalls to prevent swarf penetrating to skin. Always wash separately from normal family clothing.

SKIN IRRITATION Wear gloves when handling to prevent laceration from cut ends. Materials are supplied with "soft" ends to prevent accidental damage. However materials processed at site will have cut ends which must be handled with care. The sections may be covered with residual oils from the manufacturing process. Avoid contact with skin.

BARRIER CREAMS Can help some skin types but are a matter of personal choice.

CONDUCTION Avoid contact with overhead wires and electrical installations during handling. Steel is a very good conductor.

EYE PROTECTION

Always use when cutting or drilling aluminium profiles. If swarf enters eye then wash with an eye bath. Consult doctor immediately. Take care when cutting away strapping which binds steel profiles as it may cause injury as the tension is released. Sparks from mechanical cutting may be hazardous.

PERSONAL HYGIENE Always maintain adequate standards of personal hygiene. If steel swarf is swallowed wash out mouth and consult a doctor immediately.

WASTE DISPOSAL The material is not hazardous and should be disposed of in accordance with local regulations at a tip designated for building products.

EMERGENCY ACTION If laceration of the skin occurs treat using standard first aid, if swarf is swallowed or enters eyes, consult with a doctor immediately.



APPENDIX 4

EXTRACTS FROM SUPPLIER INFORMATION

UPVC SECTIONS

Although not hazardous in normal use the hazards resulting as a consequence of fire in relation to UPVC are significant. The full information is given on the attached data sheet provided by Hydro Polymers Appendix 5.

OTHER ASSOCIATED PRODUCTS

FOS will incorporate a large range of other products subject to the build specification, for information the items listed below please consult the supplier/manufacturer providing these materials.:
ELECTRICAL ITEMS, IRONMONGERY, DOOR PANELS, BLINDS, GLASS, VENEERED PANELS WALL COVERINGS, VARIOUS SEALS, ADHESIVES, FIXINGS, ELECTRICAL POWER TOOLS.

IF IN DOUBT PLEASE CONTACT YOUR SUPPLIERS:



APPENDIX 5

PVC INFORMATION SHEETS

1. INTRODUCTION

This publication outlines the precautions which should be taken in the handling of compositions made from vinyl chloride polymers (PVC) and co-polymers, and has been prepared in conjunction with the British Plastics Federation. The compositions are made from PVC polymers and/or co-polymers by blending with a variety of additives such as stabilisers, plasticisers, fillers, pigments etc. They should not be confused with PVC polymers which may require different precautions in handling. Further information on PVC polymers can be found in Hydro Polymers Limited publication "A Guide to the handling of PVC Resins". PVC compositions are described in several ways, the most common being:

Physical Form

Description powder PVC dry blend, powder blend, Colour powder concentrate Pellet PVC granulate, pellet.compound. masterbatch, colour concentrate. Liquid/Paste PVC plastisol . organosol Dough/Jelly Hot melt compound (H.M C.) Extrusion Formed PVC.

Additional Health and Safety information relating to specific compositions will be found in the appropriate technical literature.

2. POTENTIAL HAZARDS

(2.1) Toxicity

(2.1.1) Inhalation

(2.1.1.1) Residual Monomer

The release of VCM from PVC compositions may occur into processing plant atmospheres such as in extrusion and moulding shops where it will only produce trace levels, very considerably lower than the limits quoted below. provided that simple ventilation is employed in areas where compositions are stored, handled and processed. Since there is accepted evidence linking the inhalation of high concentrations of VCM over prolonged periods with carcinogenic effects, precautions are necessary to avoid inhalation exposure.

An EEC Directive' has been issued on the protection of the health of workers exposed to vinyl chloride monomer. This Directive limits VCM to a technical long term limit value (TLTLV) of 3ppm, the reference period being the year, allowing that wherever practicable, exposures should be brought as near as possible to zero concentrations. The rigorous monitoring and control measures of the Directive do not apply to the handling of compositions, although it is recommended that the exposure requirements should be met. Analytical techniques to measure VCM levels in the atmosphere can be found in a manual published by the Chemical Industries Association.

Compositions based on vinyl chloride/vinyl acetate co-polymers also contain trace residues of vinyl acetate which, although much less volatile than VCM, will be slowly released to the surrounding atmosphere. There is no evidence of carcinogenic effects from vinyl acetate at any concentration. The provision of adequate ventilation, as indicated above. for VCM will serve to minimise vinyl acetate concentration in the working atmosphere also.

2.1.1.2 Powder and Dust

PVC pellets, dice, pastes and doughs do not present any inhalation hazards because of their physical form. However, the handling of PVC powder compositions or cutting/grinding of pvc extrusions may give rise to airborne dust

concentrations and steps should be taken to avoid inhalation of such airborne material. PVC compositions may contain toxic stabilisers pigments etc., and such compositions may be harmful if Inhaled Notice of the presence of such toxic ingredients will be found on the bags or other containers In which the material is supplied where appropriate.

PVC dust has hitherto been considered a "nuisance dust" (defined as producing no irreversible change in living tissues when exposures are kept under reasonable control, eg. to a hygiene standard of 10mg. per cubic metre). This classification has been supported by a number of surveys of workers who have had prolonged exposure to PVC dust.



However, some recent papers published in medical journals have suggested that PVC dust affected health through lung damage. This was so different from the industry observations that the Edinburgh Institute of Occupational Medicine (IOM) was commissioned to carry out a major study of the lung health of past and present employees at a major UK factory where PVC has been manufactured for thirty five years.

The IOM has reported that there is no evidence of serious lung damage from inhalation of PVC dust. The IOM did detect a small but measurable effect on the ventilatory capacity of lungs related to the degree of exposure to PVC dust and to cigarette smoking habits. The IOM also found some slight abnormalities in some chest X-rays. They concluded that "there is no evidence that PVC dust has caused serious illness among the work force although the possibility of a rare idiosyncratic response to the dust cannot be excluded. In the UK, the Government Health & Safety Executive (HSE) have issued a Guidance Note "Control of Exposure to PVC Dust" (1982) in which they draw attention to possible health risks which could result from exposure to PVC dust and in which they recommend exposure limits.

The HSE Guidance Note has made the following recommendations for control limits:-

- (a) Exposure to PVC dust should be kept as low as is reasonably practicable.
- (b) In any case exposure should not exceed 10 mg/m³ for total PVC dust in air and 5 mg/m³ for respirable dust in air.

The Guidance Note gives details of methods of sampling and measurement. The need for good industrial hygiene and compliance with the HSE control limits is emphasised. The exposure of operators to PVC dust should be minimised by the proper design of storage and handling facilities, by proper works practice, by good housekeeping and by the use of suitable protective clothing including face masks capable of excluding very fine particles (ref. 7).

The use of efficient and appropriately sited ventilation and extraction systems will enable low atmospheric concentrations to be maintained. (See Section 3.1 Health Considerations).

2.1.2 Ingestion

Some PVC compositions may contain certain ingredients which are toxic if ingested. This particularly applies to some of the stabilising and pigment systems used. For this reason the ingestion of PVC compositions may be harmful. To a degree, the risk is related to the physical form of the PVC composition. Thus any toxic ingredients which might be present in a pelletized composition are not readily extracted while in a powder blend, or more particularly in colour powder concentrate, the risk is greater. The presence of a toxic ingredient in a PVC composition will be indicated by cautionary notices on containers. Appropriate protective measures are given in sections 3 and 4.

2.2 Dermatology

PVC polymers and co-polymers are not normally considered to be skin irritants or sensitizing agents in their own right. PVC compositions in powder form can have an abrasive effect on the skin, particularly at collars and cuffs, and this can give rise to dermatitic problems if sensitizing ingredients are present in the composition. The presence of an ingredient in a PVC composition which is known to have an irritant or sensitizing effect in contact with the skin will be indicated in the technical literature or label referring to that specific grade. Irrespective of whether special dermatitic hazards are known to exist, it is recommended good practice that all persons handling PVC compositions should wash exposed areas after work and before eating (see section 5).

2.3 Fire

(2.3.1) Ignition and burning characteristics Most PVC compositions, under normal conditions of storage and use, are not flammable, but in common with other organic materials they can be consumed by fire. The ease with which compositions will burn under these circumstances will depend on their composition, but in general, ease of burning will increase with increasing plasticiser content. Some plastisol compositions contain flammable diluents, which can constitute a fire hazard. This information will be given in the appropriate technical data sheet, and containers marked accordingly. When PVC compositions are stored in palletised sacks, it must be recognised that the packages and the pallets themselves are a fire risk and are generally a much more likely route for rapid fire spread.



2.3.2 Decomposition products

The major products of combustion/decomposition of PVC compositions are carbon dioxide, carbon monoxide and hydrogen chloride. Additionally, many other minor decomposition products have been identified. Carbon monoxide and hydrogen chloride are toxic with threshold limit values - 50 ppm and 5 ppm respectively, and inhalation must be avoided. In addition hydrogen chloride is corrosive in the presence of moisture.

The nature and proportion of such decomposition products will vary according to the formulation, though there will not normally be additional hazard, toxic or corrosive, to that associated with carbon monoxide and hydrogen chloride. It should be noted that Hy-vin PVC compositions possess adequate stability for the intended application and therefore decomposition resulting in the evolution of significant quantities of the above gases does not occur under typical processing conditions. The action to be taken in the event of a fire is given in Section (3.2).

2.4 Dust

PVC granulated compositions do not, under normal conditions of storage and use, constitute a dust hazard. However the handling of PVC powder compositions can give rise to air-borne dust concentrations and reference should be made to section 2.1.1.2. In addition, some PVC powder compositions and colour powder concentrates can contain toxic ingredients such as heavy metal salt stabilisers and pigments, which may be harmful if inhaled. See Section 3.1.1. It is possible that dust may be formed during grinding of scrap PVC materials, in which case the same considerations will apply as to powder compositions. See Section 2.1.1.2.

For advice on good housekeeping practice and avoidance of dust, contact your local factory inspector.

2.5 Explosion

(2.5.1) PVC Powder Compositions PVC polymers are rated as a low order dust explosion risk, as defined in work carried out by the Fire Research Station, and PVC powder compositions would be expected to be therefore also of low risk.

(2.5.2) PVC Plastics Some PVC plastisols may give rise to concentration of vapours which are flammable and potentially explosive.

3. RECOMMENDED PRECAUTIONS FOR TRANSPORTATION, HANDLING AND STORAGE.

3.1 Health Considerations

3.1.1 Powders

PVC powder compositions can contain toxic ingredients and particular attention should be paid to minimising exposure to such materials. However for all PVC Powder compositions the following precautions should be adopted:

Silos and bulk containers should be sampled by means of a long handled scoop to avoid exposure to air-borne ingredients.

When it is necessary to enter the confined space of a bulk container, silo, etc., there is a risk of exposure to concentrations of VCM above the Hygiene Standard 1, and all requirements as stated in the section relating to "Entry into Confined Spaces" of the Vinyl Chloride Code of Practice for Health Precautions must be followed. Reference is also made to section 30 of the Factories Act 1961 'g and TDN 47 "Entry into Confined Spaces: Hazards and Precautions". Suitable extraction and protective clothing should be available in all areas where a person is exposed to PVC dust during handling or processing. All extraction facilities should be positioned so that they exhaust away from the natural working environment The exhaust air should be filtered so that fine dust does not pass into the atmosphere.

Dust masks (fitted with fine particle filter pads), eye protection, overalls and gloves should be used when PVC powder compositions are being handled. In automatic handling all reasonable precautions should be taken to prevent and contain dust. Exposure to dust should be minimised at all times by maintaining a good standard of housekeeping. Washing and showering area should be provided for workers who have been exposed to dusts particularly powder compositions containing toxic ingredients. Also arrangements should be made for collection of contaminated clothing. Smoking, eating and drinking should be prohibited in areas where compositions containing toxic ingredient are being handled, and workers should be encouraged to wash and don clean clothing before eating. The advice of the local HM Factory Inspectorate should be sought as necessary.



3.1.2 Granulate and extrusions

No additional precautions are necessary unless stated on a label or in the individual technical data sheet, other than those concerned with subsequent processing (see section 4).

3.1.3 Pastes and Doughs

These often contain diluents which are flammable and should be stored in well ventilated conditions as advised by the local Fire Authority.

Where a person is handling pastes or doughs suitable protective clothing, including eye protection, should be worn and the area ventilated.

3.2 Fire Fighting Precautions

Most available fire extinguishers are effective in fighting fires involving PVC, although due note should be taken of the particular situation (eg when live electrical equipment is nearby) which may restrict the use of some media. Advice should be sought from the local Fire Authority as to the most suitable types of extinguisher to be installed. In the event of a small localised fire, immediate action should be taken by personnel in the vicinity using available fire extinguishers. Care should be taken to avoid inhalation of decomposition fumes. When the fire has been extinguished ventilation should be increased to clear the fumes as quickly as possible. It is important to advise the fire fighting personnel, including the fire brigade, to wear acid resistant protective clothing and full facemasks. The fire brigade should also be notified that PVC compositions are involved. Suitable breathing equipment should be worn by fire fighters exposed to the products of combustion. Qualified medical aid should be sought in the event that anything more than very temporary irritation to the skin, eyes, throat, etc., is experienced. As highly corrosive hydrogen chloride is given off during the combustion of PVC, directly affected areas should be cleaned down to remove corrosive decomposition on equipment etc., as soon as possible.



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