## Generic Risk Assessment: Working on Roofs (FMRA 0006)

**Only staff and contractors who are ‘Authorised’ by Estates Facilities management are allowed to access roof areas. Those who need access who are not ‘Authorised’ must seek permission via the** [**Estates Facilities Permit to Work**](http://www.imperial.ac.uk/estates-facilities/contractors/permit-to-work/) **system or via permission from the Measured Term Contractor.**

This generic risk assessment has been produced in order to assist those who have a legitimate need to access and/or work on a roof to do so safely.The controls as listed below are to be applied by Managers and Supervisors to assist them to manage the work of their staff thereby ensuring that a ‘safe system of work’ is in place. The generic risk assessment is also to be shared with staff that should be aware of the hazards. The control measures below must be observed at all times.

Please note the term “workers” when used below includes any person authorised to be on a roof.

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| Hazard | **Persons at Risk** | **Existing Controls** | **Further Action Required** |
| Access to roof/plant room by unauthorised persons | Passers-by, Workers, Trespassers | Only Authorised persons are permitted access, via their College ID card. Roof (and plant room) access doors are colour coded and signed to indicate restricted access and/or hazards. | Take care to secure access points to prevent unauthorised persons accessing roof areas. It is recognised that this can be problematic, e.g. when frequent irregular access is required such as when transporting materials onto roofs. |
| Fragile roof/skylights | Workers, Building Occupiers | Fragile roof / skylights are either covered, signed as hazardous or have physical barriers around them. In some instances access to the location is restricted to those using fall restraint / arrest equipment. | Those accessing roofs where skylights exist are to avoid these hazard areas where possible. |
| Hazardous emissions from fume stacks | Workers | The College requires that all fume stacks rise a distance of not less than 3 metres above primary roof level, this provides a high level of protection to those workers who may have to access the roof.Workers are however advised not to work for extended periods of time within a 3 metre radius of a fume stack unless this has been approved by their Manager. | In the event that it is necessary to work at height on a roof adjacent to e.g. within a 3 metre radius of a fume stack vent this should only be undertaken via a permit to work. In the event that a fume stack is less than 3 metres above the primary roof surface workers must not go onto the roof without the permission of their manager. |
| No or limited edge protection | Workers, passers by | Where fully compliant collective edge protection does not exist access will only be permitted by adherence to the following :* A safe system of work which sets out the precautions to be taken by operatives.
* No person to be within 2 metres of an unprotected roof edge unless they are using fall arrest / restraint apparatus and working in compliance with a permit to work.
* Operatives to give full regard to weather conditions when planning works on unprotected roofs.
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| Roof anchors / man-safe systems | Workers | All anchor devices and lateral man-safe systems are tagged to indicate they have been tested. The tag will show the next test due date. Do not use any equipment which is not in-date. Only use lanyards and harnesses which comply with the specification of equipment and method statement  |  |
| Roof access hatches | Workers | Roof access hatches pose openings that must be protected. The simplest approach to controlling this hazard is to simply close the hatch cover once on the roof. However precautions must be taken to ensure that the cover will not latch in a way that prohibits exit. If the hatch *must* be kept open - for example, to pass up tools and materials - the opening must be protected with a guardrail, or employees must use personal fall arrest equipment during the time to which they are exposed to a fall. |  |
| Sloping Roof (>10%) | Workers | Sloping roofs are not to be walked on by staff /contractors unless access arrangements are included in a safe system of work as agreed via a permit to work. |  |
| Slippery roofs | Workers, passers by | Staff/contractors to wear appropriate footwear when accessing roofs and exercise caution where roofs are wet or icy. |  |
| Lone Working | Workers | Lone Working on roofs is not permitted unless with the express permission of a manager or supervisor. |  |
| Fixed vertical (Jacobs) ladders. | Workers | Staff / contractors to exercise caution when using these ladders. Always maintain the maximum number of contacts with the ladder and avoid using hands to carry tools / equipment. Do not use vertical ladders as work platforms. | Exercise greater caution where ladders are not fitted with hoop protection.  |
| Adverse weather | Workers, passers by | Do not work at height in storms or strong winds. Managers / those granting permission for roof access are to consider the implications the weather could have on the safety of operatives.  | Be particularly mindful of the ‘sail’ effect which large work materials can produce e.g. on plywood sheets, glazing. This ‘sail effect’ can be extremely hazardous, even in light winds. |
| Overloading roof | Workers | Where heavy plant or materials are to be placed on a roof consideration must be given to the safe working load of the roof. Where there is any doubt the Facilities Management competent person must be consulted. | Always consider distributing the weight with use of spreader plates, joists or sheeting.  |
| Poor or no lighting | Workers | Do not carry out work operations in poorly lit areas. Provide additional lighting – extension leads, torches if required etc. Beware of trip hazards presented by extension leads. |  |
| Falling objects | Workers, Pedestrians | Where tools or equipment are being used adjacent to a roof edge and there is a risk of them falling and injuring those below those items must be attached to a safety lanyard. Be particularly mindful of the ‘sail’ effect which large work materials can produce e.g. plywood, glazing. This sail effect can be extremely hazardous even in light winds blowing material off towers | .For added safety consider using barriers to cordon off the area below to prevent injuries to pedestrians. Good housekeeping throughout the roof work is very important. |
| Unprotected walkways (including in valley gutters) | Workers | Walking in valley gutters should be avoided unless absolutely necessary as they can often be slippery and the lead flashing can be easily damaged. |  |
| Asbestos – e.g. cement roof sheets, glazing rope. | Workers | Check the College’s asbestos register and roof hazard profile before work commences. Follow the College’s asbestos procedure. |  |
| Hot works on roofs | Workers | **No Hot Works are to be undertaken without a Hot Work Permit –** [A hot work permit can be obtained by logging on to the Estates Facilities Customer Services Centre website](http://www.imperial.ac.uk/estates-facilities/contractors/permit-to-work/). Where the work is of an urgent nature a hot work permit can be obtained from the Fire Office for South Kensington or Maintenance Managers at Medical Campuses.Any contractor undertaking hot works must comply with the conditions required by the hot work permit. The following are general precautions which should be taken:* To prevent fires keep flammable material, gases and/or liquids well away from the heat source.
* Nominate a fire watcher where indicated by the risk assessment;
* Seal off air intakes and roof openings to keep fumes and flame out of the building.
* Have fire extinguishers available.
* Make an emergency plan.
* Know the roof’s escape routes.
* Set up communication between the roof crew, building, and ground workers.
* Know the local emergency numbers for fire and medical services.
* Know first aid for heat illness and severe burns.
 | Don’t torch directly onto building materials, flashing, or voids in the roof. Be careful on steep slopes; walk-behinds can roll away or tip over. Don’t pull a walk-behind backward on roofs that exceed a 1in 3 slope set a torch down, always turn it off and set it upright on its legs.  Never hang a torch over a roof edge. Stop work 2-3 hours before you leave a job to prevent hot spots or smouldering fires.Welding machines to apply plastic roof membranes reach 1,100°F and use up to 230 volts of electricity. To prevent electric shock, use circuit breakers and avoid rain or wet areas. Don’t touch grounded objects such as pipes or scaffolding while operating the equipment. Don’t overheat plastic membranes, they can emit toxic compounds. |
| Electrical Hazards, high voltage | Workers | All staff to work in compliance with IEE Regulations |  |
| UV exposure, heat. | Workers | Wear appropriate PPE and sun protection cream. Avoid working in direct sun light for prolonged periods and take regular breaks, keep hydrated with fresh water. |  |
| Manual handling | Workers | All Workers to work in compliance with the Risk Assessment / Method Statement and apply ‘best practice’ handling techniques. |  |
| Hazardous substances | Workers | Any known hazards will be detailed on the roof risk profile which is to be shared with staff and contractors. |  |
| Electromagnetic/Radio waves from telecoms transmitters | Workers | All works associated with telecoms masts will be undertaken subject to submission of a risk assessment / method statement and permit to work.  |  |
| Exposure to Legionella bacteria | Workers | The College has arrangements in place which satisfy the duties as set out in the Approved Code of Practice (L8) for controlling the risk of Legionellosis. | [Copy of arrangements available on our safety guidance webpage](http://www.imperial.ac.uk/estates-facilities/health-and-safety/safety-guidance/). |
| Trip hazards (lightning conductors, drain vents etc) | Workers | There can be many trip hazards on roofs due to the presence of services, plant, gantries and roof finishes. Workers should always wear footwear which is appropriate to the task being undertaken and always pay attention to where they are walking. Purpose made walkways should be used where provided.  |  |
| Cradle access systems | Workers | Cradle systems are ‘mobile elevating working platforms’ and are not to be operated other than by IPAF (International Powered Access Federation) qualified persons.  |  |
| Head height obstructions | Workers | Wear appropriate PPE. NB Space is constrained in some plant areas  |  |
| Poor ‘housekeeping’ | Workers | Keep areas tidy and unobstructed at all times. Promptly remove unused materials from roof area after works have been completed. | Report to the Building Manager any structural damage you may find and any work materials which have been left by others. |
| Poor communications | Workers | Some roofs due to their profile of hazard will be designated as ‘No lone-working locations’. Where lone working is permitted, workers are to have the means to communicate with their Supervisor or College Security. |  |
| Automatic opening vents and windows can present trip/fall hazards and encroach on walkways | Workers | These will be identified on the roof hazard schematic, which is to be used as the basis for Risk Assessment of the work/project to be undertaken and the adoption of safe working methods. |  |

I have read and understood the above risk assessment and received appropriate relevant training:

Employee’s Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Employee’s Name (print): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Risk Assessment Signed Off by: Steve Hughes Date: July 2017 Next review date: July 2018