

Hot Work Permit System

Purpose:

To establish procedures to minimize the possibility of fire or explosion resulted from Hot Work at the Hong Kong Baptist University.

Definitions:

“Hot Work” – Any work involving flame welding and cutting, electric arc welding, abrasive grinding and all other similar operations which may produce spark, fume or which is capable of initiating fires or explosions in construction or renovation work.

“Watchman” – An individual posted to observe the hot work and monitor conditions to ensure that a fire or explosion does not occur as a result of the work performed.

Precautionary Measures – during and after operation:

If any infractions of the Hot Work Permit System are discovered, the Hot Work will be suspended until such time said infraction(s) have been rectified.

General Safety Precautions:

- a. Good housekeeping should be maintained. All combustible/ inflammable materials should be segregated from the hot work area not less than 10m in one construction workplace.
- b. The quantity of dangerous goods in the construction workplace should not exceed the Dangerous Goods Exempted Quantity in Construction Sites.

Dangerous Goods	Category	Exempted Quantity
Acetylene Gas	2	2 cylinders
Compressed Oxygen Gas	2	2 cylinders
Paint, Lacquer & Varnish	5	250 litres
Paint Thinner	5	20 litres
Diesel	5	2500 litres
Petrol	5	20 litres

- c. Working location should be fenced off and posted with proper warning sign, so as to alert nearby personnel of the danger.
- d. Certified and suitable fire extinguishers should be available at the spot of Hot Work. They should be regularly checked and well maintained. The person carrying out the Hot Work or watchman should be familiar with the use of the extinguishers. Proper coordination should be arranged in order to minimize the interruption among nearby neighbour or departments.
- e. The work area should be adequately ventilated to prevent the accumulation of toxic or flammable vapours. Air blowers should be used where appropriate.
- f. Openings or cracks on floor or walls where welding sparks or slag may fall through should be covered with non-combustible materials. OR where

appropriate, suitable fire resistant screens should be erected to fence off the working area.

- g. Hot work equipment should be checked before use.
- h. Worker(s) involved should be trained and competent to perform hot work.
- i. All workers performing the operation should be provided and worn with suitable personal protective equipment such as protective clothing and eye goggles.
- j. When Hot Work is carried out in areas with automatic fire protection systems, the automatic discharge control should be rendered inoperative and the system should be set to Manual Control. The automatic control should be restored upon the work completion or when the area is vacated (e.g. during lunch breaks or at the end of a working day).

Specific Safety Precautions for Gas Welding and Cutting:

- i. With gas cylinders for flame cutting works, proper fittings including flash-back arrestors should be provided.
- ii. Gas cylinders should not be allowed to come into contact with electrical apparatus or live wires.
- iii. Gas cylinders must be kept away from sparks, flames or slag from cutting operations.
- iv. Worker should handle lit blowpipe with great care and do not hang it on a gas cylinder shroud or leave it unattended even for a short period of time.

Specific Safety Precautions for Electric Arc Welding:

- i. For electric arc welding, the electrical system including the power source, the equipment and the wiring should be checked for their integrity.
- ii. Electric arc welding should not be carried out at the opening area while raining or under adverse weather.

Hot Work Procedures (For External):

1. Prior to the work commence, Contractor Project-in-charge should assess the location, working process needs as well as interference of other operation nearby.
2. Contractor Project-in-charge should assess working condition / environment, any special fire risks / hazards would be encountered if there is need to have flame cutting, welding, arc welding as well as abrasive grinding operations undertaken.
3. Contractor Project-in-charge should follow the entry and work requirements for working in confined space.
4. Considering any other alternative method to avoid hot work process to be carried out near confined area, flammable material, storage area and explosive atmosphere.
5. Hot Work Permit should be implemented for the operations which fulfill the definition of "Hot Work". The safety precautions in this System and in the permit must be followed.
6. Contractor Project-in-charge should fill in the Application Part (Part 1 of hot work

permit) and consider sufficient fire fighting equipment in the vicinity of work area.

7. Contractor should assign a watchman for the work process until work to be completed.
8. Contractor should pass the permit to HKBU Project-in-charge for approval (Part 2 of hot work permit) before start working.
9. HKBU Project-in-charge should check all items in Part 1 and sign Part 2 for approval.
10. The approved permit should be posted in a prominent area adjacent to the work spot.
11. Watchman should supervise the Hot Work to ensure the observation of predetermined control measures.
12. Contractor Project-in-charge should carry out final inspection upon the work completion in the entire working areas to ensure there is no risk of fire and ignition source was removed.
13. Contractor Project-in-charge should sign Part 3 of Hot Work Permit and return it to HKBU Project-in-charge.
14. HKBU Project-in-charge should counter check the completed work spot, sign Part 4 of Hot Work Permit and return the permit to EHSU for record.

Hot Work Procedures (For Internal):

1. Prior to the work commence, HKBU in house artisan should assess the location, working process needs as well as interference of other operation nearby.
2. HKBU in house artisan should assess working condition / environment, any special fire risks / hazards would be encountered if there is need to have flame cutting, welding, arc welding as well as abrasive grinding operations undertaken.
3. HKBU in house artisan should follow the entry and work requirements for working in confined space.
4. Considering any other alternative method to avoid hot work process to be carried out near confined area, flammable material, storage area and explosive atmosphere.
5. Hot Work Permit should be implemented for the operations which fulfill the definition of “Hot Work”. The safety precautions in this System and in the permit must be followed.
6. HKBU in house artisan should fill in the Application Part (Part 1 of hot work permit) and consider sufficient fire fighting equipment in the vicinity of work area.
7. HKBU Project-in-charge should assign a watchman for the work process until work to be completed.
8. HKBU in house artisan should pass the permit to HKBU Project-in-charge for approval (Part 2 of hot work permit) before start working.
9. HKBU Project-in-charge should check all items in Part 1 and sign Part 2 for approval.

- 10 The approved permit should be posted in a prominent area adjacent to the work spot.
- 11 Watchman should supervise the Hot Work to ensure the observation of predetermined control measures.
- 12 HKBU in house artisan should carry out final inspection upon the work completion in the entire working areas to ensure there is no risk of fire and ignition source was removed.
- 13 HKBU in house artisan should sign Part 3 of Hot Work Permit and return it to HKBU Project-in-charge.
14. HKBU Project-in-charge should counter check the completed work spot, sign Part 4 of Hot Work Permit and return the permit to EHSU for record.

Reference:

Regulations/ Government Publications

1. A Guide to the Factories and Industrial Undertakings (Gas Welding and Flame Cutting) Regulation, Labour Department, Hong Kong
2. Code of Practice: Safety and Health at Work for Gas Welding and Flame Cutting, Labour Department, Hong Kong
3. Code of Practice: Safety and Health at Work for Manual Electric Arc Welding, Labour Department, Hong Kong
4. Construction Site (Safety) Regulations, CAP59I, Labour Department, Hong Kong
5. General requirements, Welding, Cutting, and Brazing, Occupational Safety and Health Standards, U. S. Department of Labor, USA
6. Hot Work – Key Safety Measures to prevent Fire Accident, Architectural Services Department, Hong Kong

Other Universities Guidelines/ Working Procedures

1. Application for Hot Work Permit/ Other Works Affecting AFA System, Chinese University of Hong Kong, Hong Kong
2. EH&S Hot Work Safety Policy, University of Florida, USA
3. Hot Work Permit Policy, Texas A&M University, USA
4. Procedures for Hot Work on University Premises, Hong Kong University of Science & Technology, Hong Kong
5. Welding, Cutting, and Brazing Safety Program, The George Washington University, USA

Procedures for Hot Work Permit

Contractor Project-in-charge/ HKBU in house artisan should assess the work process, location, environment, etc., and completes Part 1 of the permit. Consider alternative method to avoid Hot Work in unsafe atmosphere.

Contractor Project-in-charge/ HKBU in house artisan should assign a watchman and sign Part 1 for application.

HKBU Project-in-charge should check all items in Part 1 and fill in Part 2 for approval.

The approved permit should be posted in a prominent area adjacent to the work spot.

Watchman should supervise the Hot Work to ensure the observation of predetermined control measures for the work process until work to be completed.

Contractor Project-in-charge / HKBU in hosue artisan should carry out final inspection upon work completion and sign Part 3. Return the permit to HKBU Project-in-charge.

HKBU Project-in-charge should counter check the completed work spot and sign Part 4. Return the permit to EHSU for record.

Permit-to-work for Hot Work 熱工作准許證

Part 1 第一部份 Application 申請: (to be filled in by the Con. Person in-charge/ HKBU in-house Artisan 由分判商負責人/浸大直屬技工填寫)

Details of Applicant 申請人資料

a. External Name of Company 公司名稱 _____

Name and Post of the Person in-charge 負責人姓名及職位 _____ Contact No 聯絡電話 _____

b. Internal Section/ Unit 部門名稱 _____

Name of Artisan 技工姓名 _____ Contact No 聯絡電話 _____

Detailed Working Location 詳細工作地點: _____

Type of Hot Work to be Undertaken 有關熱工作種類:

Arc Welding 電弧焊接 Flame Welding & Cutting 氣體焊接及切割 Abrasive Grinding 打磨 Others 其他

Brief description of work 工序簡述: _____

Equipment Used 工具儀器應用: _____

Duration of Work 工作時間: From 由: _____ To 至: _____ (Date & Time 日期及時間)

Name of Worker(s) Involved 參予有關工作的工人姓名: _____

Relevant Certificate No. (If Applicable) 有關證書編號(如適用): _____

Name of Watchman 火警看守員姓名: _____

Working location fenced off and with proper warning sign 工地圍開及有合適警告牌 Yes 是 No 否 N/A 不適用

Fire fighting equipment in the vicinity 附近的地方設有滅火器 Yes 是 No 否 N/A 不適用

All flammable materials removed from the vicinity 移除所有附近的易燃物料 Yes 是 No 否 N/A 不適用

Sufficient ventilation at the working location 工地有足夠的通風 Yes 是 No 否 N/A 不適用

Adequate cover for all floor/ wall openings/ cracks 蓋好地台或牆孔口 Yes 是 No 否 N/A 不適用

Hot work equipments in good conditions. Gas cylinders with anti-flashback arrestor. Yes 是 No 否 N/A 不適用

熱工作工具良好。氣樽裝設回火器

All workers wear suitable PPE 所有工人已配戴合適個人防護裝備 Yes 是 No 否 N/A 不適用

Specific safety precautions applied if applicable 如適用，請註明已實施特別安全措施 _____

I have personally checked all the above-mentioned items and certified that the information provided is correct and true.

本人已檢查上述事項並證明所有提供的資料為正確無誤。

Name & Signature of Con. Person-in-charge/ HKBU in-house artisan

分判商負責人/浸大直屬技工姓名及簽署 _____

Date and Time of Application 申請日期及時間 _____

Part 2 第二部份 Approval 批准申請: (Should be Approved by HKBU Project-in-charge 由浸大負責人填寫)

I hereby certified that the requirements are fulfilled and approved this hot work permit 本人證明以上的申請符合要求及批准申請

Name & Signature of HKBU Project-in-charge _____ Date & Time _____

浸大負責人姓名及簽署 _____ 日期及時間 _____

Important Instruction 重要指示

If fire occurs, please put out the fire immediately by using suitable fire extinguisher nearby. If the fire is out of control, please activate the fire alarm by breaking the break glass and contact campus security (Tel: 3411 7777).

如遇火警，請立即使用附近合適滅火器救火。如未能控制火勢，請擊碎火警鐘玻璃啟動火警鐘並通知校園保安(電話: 三四一一 七七七七)。

Part 3 第三部份 Completion 完成工序: (to be filled in by the Con. Person in-charge/ HKBU in-house Artisan 由分判商負責人/浸大直屬技工填寫)

The work has been completed and any ignition source was removed 工作已完成並已移除任何可燃源頭.

Name & Signature of Con. Person-in-charge/ HKBU in-house artisan

分判商負責人/浸大直屬技工姓名及簽署

Date and Time of Completion 完工日期及時間:

Part 4 第四部份 Cancellation 註銷: (to be filled in by HKBU Project-in-charge 由浸大負責人填寫)

The above work had been completed. The area was inspected and no fire potential hazards were noted.

上述工作已完成經檢查並無發現火種留下

Name & Signature of HKBU Project-in-charge

浸大負責人姓名及簽署

Date & Time 日期及時間

Remarks 備註

- ✓ **Approved permit should be posted in a prominent area adjacent to the work spot.**
將已批准的准許証張貼在工作地點當眼處。
- ✓ **HKBU Project-in-charge should counter check the completed work spot and return the permit to EHSU for record.**
浸大負責人應再檢查已完成工序的工作範圍及將准許証交回環境健康及安全組。
- ✓ **The permit is only valid for the applied work process and should be within one day.**
准許証只適用於同工作情況、地點、工序及有效期不可超過一天。