
**Revitalising Network
Fire Safety Workshop**

5th December 2006

**Regulatory Reform (Fire Safety) order 2005
Fire Risk Assessment**



Smurfit Kappa UK is part of the newly formed Smurfit Kappa Group, the leading packaging supplier in Europe, with about 21% UK market share.



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Smurfit Kappa Northampton

At Northampton we manufacture cardboard packaging. A few years ago a major extension to the premises was built, dividing the building into five separate compartments, each housing a portion of the process viz:



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REEL STORE (Fuel)



Reel paper, of which around 70% is recycled fibre and the remainder is virgin Kraft liner, is stored within the purpose built warehouse area, adjoining the Corrugator bay. When this photo was taken there were 1152 reels of paper (2620 tons) in the reel store.

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Ignition and Fuel source



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Control Method



Sprinkler system LPC-EHH design giving 27.5mm/min density discharge.

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Corrugator Plant (Ignition and Fuel sources)



110 mtr in length, ignition and fuel sources, (electric motors, heated rolls, belts, pulleys, friction etc.
This Corrugator plant currently produces around 80,000 000m², but in the future production is expected to gradually increase to a maximum 95,000,000 m² of board per annum.

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Finished Board Store (Fuel)



Finished board is stored on flat belting conveyors before being transferred to the conversion area.

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Conversion (Ignition and Fuel sources)



Conversion, which comprises either case making or die cutting, is undertaken on standard machines, with normal cutting, creasing, folding and gluing processes. Printing uses only non-flammable inks.

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Finished Goods (Ignition and Fuel sources (LPG Fork Lift Trucks))



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Guidance on Fire Risk Assessment

NORTHAMPTONSHIRE FIRE & RESCUE SERVICE

- The Regulatory Reform (Fire Safety) Order 2005 require employers to carry out a fire-based risk assessment of all workplaces under their control (with some exceptions). This assessment is to determine the risk from fire to employees and to identify the measures that should be implemented to control those risks.
- The Fire Service has the duty to enforce the regulations and your risk assessment will form the basis of any future inspection of your workplace.
- This guidance document has been produced to assist you to carry out a fire risk assessment and record the main findings. This is a suggested method for use in workplaces, which are not large or complex. You do not have to use this format; there are other methods of risk assessment, which would be just as valid.
- If your workplace had a Fire Certificate, you may use this as a basis for your risk assessment. When recording your findings you may wish to refer to sections of the Fire Certificate.

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Using this Risk Assessment Guide

Risk assessment should be methodical and logical. The process followed in this document consists of five Steps, as follows:

- Step 1 - Identify fire hazards
- Step 2 - Identify people at significant risk
- Step 3 - Evaluate the risks and carry out necessary improvements
- Step 4 - Record the findings
- Step 5 - Review and revise

Each Step should be completed before proceeding to the next.

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Identify Fire Hazards and their Locations

IDENTIFY FIRE HAZARDS & THEIR LOCATIONS

A: Source of Ignition

	Ignition Source	✓ if present	If present enter details (eg location, nature etc)
1.	Smoking Materials	✓	Dedicated Smoking-Area within conversion Bay.
2.	Naked Flames	✓	During Hot Work Processes, Canteen Area.
3.	Electrical Equip.	✓	2 No Electrical substations, main electrical cabinets around the site.
4.	Hot Processes/ Hot Equipment	✓	Cutting/welding/grinding operations.
5.	Cooking	✓	Canteen Cooking operations.
6.	Lighting	✓	Throughout the site.
7.	Friction	✓	Frictional generated heat from mechanical equipment
8.	Spark Generation	✓	Cutting, welding, grinding (Hot Work Operations)
9.	Arson	x	
10.	Heating Equipment	✓	Fixed and portable electrical appliances.
Others - Specify			

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Identify Fire Hazards and their Locations

IDENTIFY FIRE HAZARDS & THEIR LOCATIONS

B. Fuel Source

	Fuel	✓ if present	Give Brief Details
1.	Paper/Card	✓	Generated by manufacturing processes.
2.	Plastics	✓	On incoming goods, part of process (Strapping).
3.	Wood	✓	Timber pallets and topboards used in process.
4.	Flammable Liquid	✓	Oils, white spirit, solvents etc for process work.
5.	Flammable Gases	✓	L.P.G trucks, acetylene/oxygen for cutting/welding.
6.	Packaging Materials	✓	On and around incoming goods i.e: IT Equipment.
7.	Waste/Residues	✓	Trim from process-general waste
8.	Foam Filled Furniture	X	
9.	Curtains. Bedding etc	X	
Others - Specify			

Note: You may find easier to show locations on a simple outline plan of the workplace

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Identify People at Risk

Category of Person	Reason	Max No. of people	Location	Remarks
Visitors, members of public, Contractors	Unfamiliar with building	10 to 15 daily	All site areas	Controlled by responsible person
People with impaired mobility	May require assistance to escape	Possible	Could be to all site areas	Would be suitably controlled
People with sensory impairment	May not be able to receive warning	X		
People on upper floors or in basement	Vulnerable to fires on other floors. Further to travel	Up to 30 working on first floor mezzanines	Front offices. Production offices. Stores/engineers Workshops	All floor areas have emergency exit stairways
People in areas of higher fire risk	Fires may start more easily and develop quickly	3 – 6	Engineers and contractors carrying out Hot Works	Hot Work permit situation in place
Work alone persons, cleaners, security staff	May not be able to receive warning	1 – 3	All areas	Would be suitably controlled
People with learning difficulties	May not understand warning or be able to escape unaided	X		

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Although the Regulations are mainly concerned with employees, regard must be had for other people who may be legitimately on the premises.

Evaluate Risks – Assess Existing Arrangements

STEP 3

This Step requires you to consider the information you gathered in Steps 1 and 2 and make judgments about it.

(A) Ignition Sources

Consider in turn each of the ignition sources, which you ticked in Step 1A. For each one, decide whether you can eliminate, reduce, contain or isolate the source. Perhaps you could take other measures to improve the current situation, eg improve maintenance, relocate items, display warning notices, etc. Enter any such things in the other measures column below. Necessary action should be entered in the appropriate column.

Source	Can You:				Other Measures	Action to be taken (Use separate sheet if necessary)
	eliminate	reduce	Contain	None of these		
			√			
Smoking	Dedicated controlled smoke room					
Naked Flame	Dedicated engineers workshops for Hot Work Operations.				Hot Work permits in place Around site	Contractors suitably controlled
Electrical Systems	Full electrical inspections and testing procedures in place				Thermal imaging inspections	
Cooking	New canteen installed mid 2005				Gas isolator at Exit Door	
Spark Generation	Hot Work Permits in place for cutting, welding and grinding operations.					
Heating Equipment	Portable electric heating equipment appliances kept to a minimum					

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Evaluate Risks – Assess Existing Arrangements

This Step requires you to consider the information you gathered in Steps 1 and 2 and make judgments about it.

(B) Fuel Sources

Complete this section in the same way as A above.

Source	Can You:				Other Measures	Action to be taken (Use separate sheet if necessary)
	eliminate	Reduce √	Contain √	None of these		
Paper/Card	Daily collections of production waste etc:				Baling/shredding of paper waste	
Plastic/Foam	Daily collection and disposal into site compactor by employees					
Wood	Timber products kept to a minimum within the plant				Timber pallets stored externally	Pallet store kept 10 mtrs plus from main frame buildings
Flammable Gases	L.P.G trucks refueled externally spare cylinders in external cage				Oxygen/Acetylene spare cylinders stored in locked external cage.	Repair lock on oxygen/acetylene cage.
Packaging Materials	Cleaning schedules in place for all site areas.					

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Evaluate Risks – Assess Existing Arrangements

(C) Means of Escape

In the left-hand column below, there are some statements about means of escape. You should consider each of them in turn and relate them to your workplace. If you think that existing arrangements are satisfactory in terms of the statement tick the satisfactory box and proceed. If any element is not satisfactory, or if you are unsure, enter brief details of the action you propose to take in the relevant section. Once the remedial action has been taken, enter the date in the last column.

In carrying out this Step you should pay close attention to those people identified as being at particular risk in Step 2.

Statement	✓ Sat	Proposed Remedial Action (Use separate sheet if necessary)
Emergency routes and exits should lead as directly as possible to a place of safety clear of the building	✓	List of all external exit doors identified. Regular audits taking place.
In the event of fire everyone in the premises must be able to evacuate quickly and safely	✓	
All exits and exit routes must be kept clear at all times.	✓	
The number, distribution and size of exits should be adequate for the risk in the workplace and the number of people likely to be present.	✓	See list of exit doors for sizes.
Doors on escape routes should normally open in the direction of travel. Swing and revolving doors are not recommended for emergency exits.	✓	
Fastenings on doors on escape routes must allow doors to be easily and immediately openable in an emergency.	✓	6 No external exit doors fitted with reclamation bolts – break glass, hammer supplied
Exits and exit routes not in normal everyday use should be indicated by signs where necessary.	✓	
Exit routes must be adequately illuminated at all times. Emergency lighting should be provided where necessary.	✓	

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Evaluate Risks – Assess Existing Arrangements

Other Measures

Enter brief details about your existing arrangements in the box provided. You must then decide whether these arrangements are adequate in the light of your findings in Steps 1 and 2. If remedial action is necessary detail these in the space provided and then enter the date when action has been completed.

Measure	Existing Details	Satisfactory	Remedial Action Proposed
Means for detecting and giving warning of fire	Automatic break glass/smoke Detection/sprinkler systems in place. Connected to authority auto-dial	✓	More regular testing of break glass actuation points.
Means for fighting fire	Sprinkler system/ fixed hose reel system/hydrants, and hand held extinguishers.	✓	Site emergency response team being set up from 1-4-06.
Maintenance and testing procedures for fire prevention equipment	Sprinkler systems inspected by contractors and insurance company. Weekly testing, inspection systems in place.	✓	In the last 18 months all fire extinguishers have been replaced with new stored pressure type to BS EN3
Fire safety training for employees	Persons to form emergency Response team trained by local fire authority.	✓	Plan in place to train all employees during 2006.
Recording of testing and training	Regular testing of equipment taking place log books, insurance forms etc.	✓	All testing results etc: to be kept in one control register.

Free remedial action columns of Step 3 A -D now represent your action plan.

Necessary improvements identified in your risk assessment must now be implemented.

You should record when the items have been addressed.

Having completed all actions up to this point, you should now have a workplace, which you consider to be satisfactory.

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Record Findings – Prepare Emergency Plan

A) Record Findings

If you have completed this set of forms then you will have already recorded the main findings of your risk assessment. If you prepared a drawing in Step 1, or if you used additional sheets to record information you should keep them with the forms as part of your records.

B) Prepare An Emergency Plan

You should now prepare an emergency plan, which details the action that people in your workplace should take in the event of fire. This should include any special instructions for individuals, eg. calling the Fire Service, carrying out roll call, etc. A written copy of your emergency plan should be kept with your risk assessment records.

(C) Inform Employees About the Emergency Plan

For the emergency plan to be effective, your employees will need to be made fully aware of the contents. The emergency plan should now form the basis of your future staff training.

STEP 5

REVIEW AND REVISE

Review your risk assessment periodically. Record any reviews, which are carried out. There is a section for this on the front page of this document.

Revise your risk assessment if any significant changes occur in your workplace which increase the risk or introduce new hazards.

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Fire Safety Improvements throughout 2005/2006

- 1) Large heavy fuel oil tank drained cut up and removed from site, floor area dug up and re-concreted (August/Sept) 2005.
- 2) Underground diesel fuel tank drained and concreted in (August/Sept) 2005.
- 3) Contractors diesel fuel tank removed and replaced by new bunded tank. 32000 litre capacity – 27.500 litre working capacity. Situated on 800mm high concrete plinth. – (with warning alarm for overfill)
- 4) Complete site (external) C.C.T.V system in place.
- 5) New site entrance gate systems installed.
- 6) 3 No site hydrants protected by steelwork barriers.
- 7) Replacement programme in place of portable hand held fire extinguishers. (To BS EN3).
- 8) Several office doors alarmed into fire alarm system.
- 9) Redlam break glass bolts fitted to 6 No external exit doors.
- 10) L.P.G fork lift trucks refuelled externally.
- 11) 3 No 1 tonne L.P.G fuel storage tanks situated on 800mm elevated concrete plinth. (Minimum 6 mtrs from pallet store)
- 12) Full survey of underground drainage Services (manholes colour coded).

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Fire Safety Improvements throughout 2005/2006 continued ...

- 13) Improved on site security services (extra cover weekends).
- 14) PAT testing in place (as and when) 6 monthly, 12 monthly, 24 monthly).
- 15) Annual service of sprinkler systems. (pump sets, valve sets).
- 16) End of line flushing systems installed to all sprinkler systems. (65mm flushing system also installed).
- 17) Hot work permit system in place.
- 18) Reg Tag system in place for sprinkler system impairment.
- 19) Full length clean of under floor waste system Bobst (4) 1600 to Martin 616 waste building.
- 20) Inspection and testing procedure for 2 No site transformers + Provide silica-gel cartridges on transformers.
- 21) Internal and external fire safety audits of site by Smurfit/Kappa personnel and insurance company (F M Global).
- 22) Up-date of Fire Risk Assessment.
- 23) New bunded waste oil collector installed on concrete plinth in stores area.
- 24) Move into open area or sprinkler above, Hydraulic Unit beneath Corrugator down stacker.
- 25) Provide cabinets for flammable liquid storage in stores area and on each machine.

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Fire Safety Improvements



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Hydraulic Power Pack



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Cutting/Burning Equipment



New set of Fittings

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Portable Fire Extinguisher



Old type



BS EN3

All extinguishers out to service contract.
20% to be discharged annually.

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Fire Exit Doorway



Fire Exits



Fire Exits



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Bolted Fire EXITS



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Bolted Fire EXITS



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Good Practices



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Emergency Response File

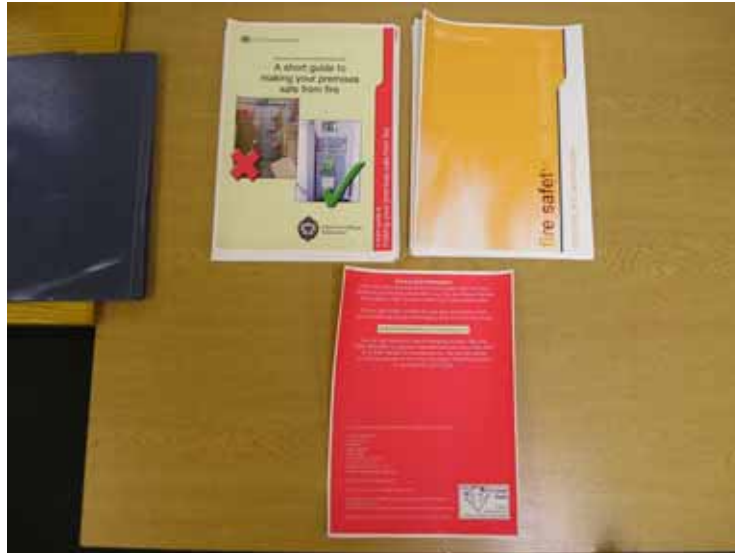
THE FILE CONTAINS THE FOLLOWING:

- 1) A3 & A4 PLANS OF SITE.
- 2) EMERGENCY AND USEFUL TELEPHONE NUMBERS.
- 3) RISK IDENTIFICATION AND AREA RISK INFORMATION.
- 4) ELECTRICAL SERVICES TO SITE.
- 5) UNDERGROUND WATER MAINS SERVICES TO SITE.
- 6) GAS SUPPLIES TO SITE.
- 7) L.P.G (PROPANE) STORAGE TANKS ON SITE.
- 8) SURVEY, ASSESSMENT, CONDITION, AND LOCATION OF ASBESTOS ON SITE.
- 9) FIRE ALARM PLAN.
- 10) IMPAIRMENT/ALTERATIONS TO FIRE SPRINKLER SYSTEMS.
- 11) LOCATION PLAN OF SPRINKLER PUMP HOUSE & SPRINKLER VALVE SETS.
- 12) MATERIALS AND UN NUMBERS.

R.A. WAITE
SAFETY OFFICER
 24/11/06

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Help Documents



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Northampton Site including Northamptonshire Fire & Rescue Head Quarters



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Northamptonshire Fire & Rescue Services HQ



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Remember ...

- Don't risk getting **your fingers burnt**.
- Fire may not get you but the law will.
- Although a Fire Risk Assessment is a minimum legal requirement, fire itself has scant regard for legislation. Therefore, the more precautions and contingencies you can put in place, the greater your protection from the dangers and destructive power of fire.
- Check to see if you have taken the necessary measures.
- **ASK**
 - Have I minimised the risk of fire to my business?
 - Have I trained people to deal with fire on my premises?
 - Have I a business continuity plan in place to continue after a fire?

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Thank You...