

# RESPONSE TO CONTAMINATION FROM FIRE DAMAGED ASBESTOS MATERIALS – A STRUCTURED APPROACH

DAVE COLLINS



1/247 Oxford Street, Leederville, WA 6007  
dave@qed.com.au



## ASBESTOS FIRE RESPONSE AND MANAGEMENT PROCESS

In the unfortunate event of fire in a property containing asbestos it is essential to undertake a measured and structured response to ensure the safety of all involved as well as the wider public.

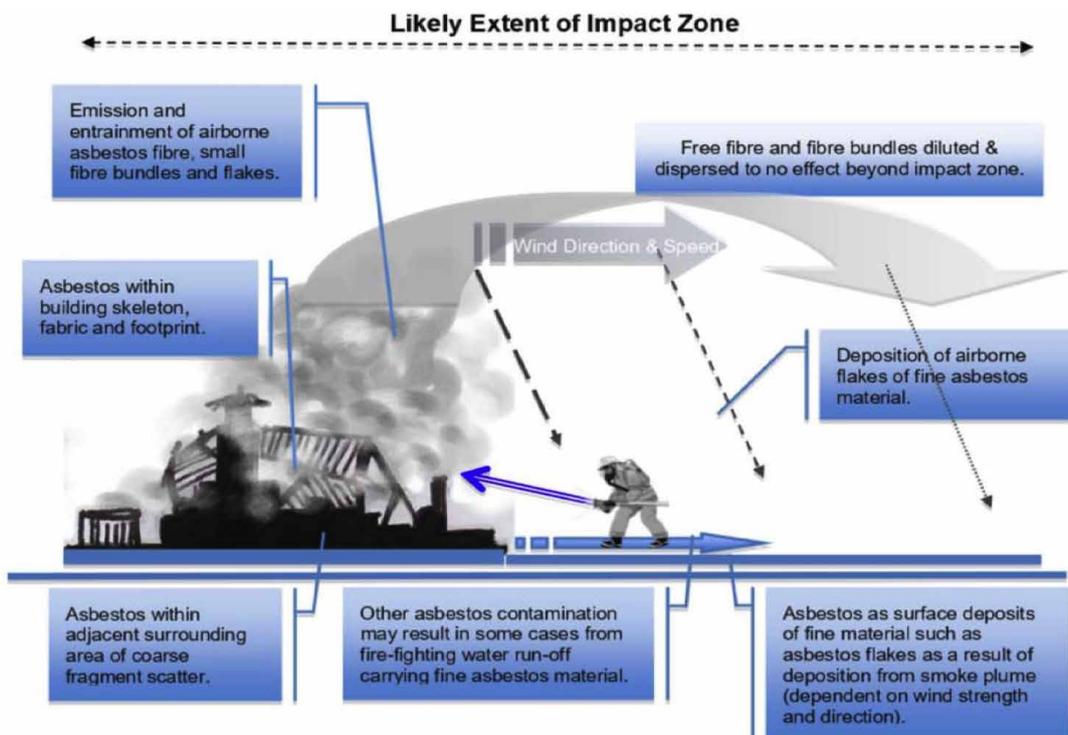
Depending on the scale of the fire there may be considerable potential for asbestos to be spread well beyond the building involved, usually in a friable form.

This risk of contamination spreading on a very large scale means that numerous State and Local agencies will be required to be involved as the concern for the safety and wellbeing of the general community becomes the priority.

Having a robust response and management process is essential. Below is an example of the process we promote at QED to minimise risk and ensure the safety of those that fall within the contaminated area.

The size and ferocity of the fire, as well as the direction and speed of the prevailing winds, will dramatically impact the affected area and should be taken into account when calculating the potential risk for the surrounding area.

The diagram below illustrates the likely extent of the impact zone:



## CASE STUDY: WEST PERTH WAREHOUSE

In 2016 a toxic blaze ripped through a warehouse located in the densely populated suburb of West Perth. QED was called in to assist with the assessment and remediation process.



### INITIAL MEASURES AND SITE ASSESSMENT

Our initial assessment of the affected area comprised visual inspections and tape tests. Tape samples were taken from various surfaces around the laneway area adjacent to the warehouse. This included surfaces that may have been contaminated with airborne fibres from the smoke plume, or exploding asbestos cement sheeting at the source of the fire. We also examined walls, fences, bins and car surfaces.

Tape sampling procedure consists of attaching the tape to the surface, peeling off, folding over and sealing in a bag. We then send these samples off to the lab for testing. Below is a snippet of the resulting report from the tape test in West Perth:

Sample Number	Sample Description	Sample Type	Approx. Sample Weight (g)	Asbestos in Bulk Sample
16-05793-1	ID:09038 - External Fence	Tape Test	-	No Asbestos Detected
16-05793-2	ID:09039 - Car	Tape Test	-	No Asbestos Detected
16-05793-3	ID:09040 - Car	Tape Test	-	No Asbestos Detected
16-05793-4	ID:09041 - Rear or Property	Tape Test	-	No Asbestos Detected
16-05793-5	ID:09042 - External Gate	Tape Test	-	No Asbestos Detected
16-05793-6	ID:09043 - Rear or Property	Tape Test	-	No Asbestos Detected
16-05793-7	ID:09044 - On Wheelie Bin	Tape Test	-	No Asbestos Detected
16-05793-8	ID:09045 - Rear of Property	Tape Test	-	No Asbestos Detected
16-05793-9	ID:09046 - Car	Tape Test	-	No Asbestos Detected

While the tape test showed no asbestos was detected on this outlying area, asbestos fibre cement debris was visibly observed within the laneway, in the children's play area and swimming pool area of a nearby apartment hotel.



When dealing with a fire that presents a genuine risk of asbestos contamination it is essential to consider all potential areas of impact. For instance the road drains nearby will receive water runoff from the fire-fighting efforts and these may contain minor amounts of asbestos. In this particular case QED tested the drains and concluded that the risk to public exposure of asbestos was negligible.

We recommended that any future Job Safety Assessment (JSA) for workers that needed to access the drains included the possibility that minor amounts of asbestos material may be present along with potential risks from other chemicals, and that the required personal protection equipment (PPE) should take this into consideration.

Safety of the workers responding to the incident and undertaking the cleanup is imperative. Appropriate measures and personal protection equipment (PPE) are required for any contractors during the cleaning.

---

## SITE REMEDIATION

Once the initial assessment has been completed the clean-up phase begins, where all efforts are taken to safely remove the asbestos that remains in the contaminated areas.

The remediation process starts with the clean-up of all visible debris by a licensed asbestos removalist. This is generally done using an asbestos-rated vacuum cleaner. A 5 metre exclusion zone is established (where possible) to restrict public access during the removal process.



In this case all outdoor furniture within the hotel pool and children's play areas was also wiped down and asbestos fragments within the pool were also physically removed.

We also recommended seeding the pool with a flocculent, running the pool pump and filtering the sand-filter backwash before discharging to the sewer to ensure the pool was safe for use.

Finally, to ensure the site was left completely safe we also advised cleaning of all low level roofs within the hotel areas.

When carrying out the remediation process it is important to employ an asbestos removal contractor with an unrestricted licence. In this case all clean-up works were carried out in accordance with the Code of Practice for the Safe Removal of Asbestos 2nd Edition [NOHSC:2002(2005)].



## SITE VALIDATION

Once the site remediation has been completed we move in to the validation stage, where final tests are carried out to ensure the contaminated area is now completely free of asbestos.

This stage of the process usually includes a comprehensive visual inspection of the area. In this case this included the laneway, children's play area and swimming pool area of the hotel.

Following visual confirmation of the clean-up, tape samples were taken from surfaces within the children's play area, swimming pool area and on the roof of the hotel to ensure the areas were now safe for public use. Below is an extract from our validation report:

Once the final results are in and the area is deemed safe, a clearance certification is issued by the consultant confirming details of the validation check and the outcome.

Sample Number	Sample Description	Sample Type	Approx. Sample Weight (g)	Asbestos in Bulk Sample
16-05844-1	ID: 09049 - Swimming Pool - Top of Furniture	Tape Test	-	No Asbestos Detected
16-05844-2	ID: 09050 - Swimming Pool - Top of Gate	Tape Test	-	No Asbestos Detected
16-05844-3	ID: 09051 - Swimming Pool - BBQ Area	Tape Test	-	No Asbestos Detected Synthetic Mineral Fibres Detected
16-05844-4	ID: 09052 - Roof Area - On Roof	Tape Test	-	No Asbestos Detected
16-05844-5	ID: 09053 - Childs Play Area - BBQ Area	Tape Test	-	No Asbestos Detected
16-05844-6	ID: 09054 - Childs Play Area - Tables & Chairs	Tape Test	-	No Asbestos Detected
16-05844-7	ID: 09055 - Childs Play Area - On Slide	Tape Test	-	No Asbestos Detected



Once the final results are in and the area is deemed safe, a clearance certification is issued by the consultant confirming details of the validation check and the outcome.

## WHERE TO NOW?

An effective response strategy to contamination from fire damaged asbestos materials can minimise potential risks to the general public and ensure State and Local authorities are confident they can act accordingly to very serious public health issues.

By placing an emphasis on agencies working together effectively and efficiently, as well as following these 3 simple steps, we are confident that improvements can be made in this area:

1. Review and evaluation of the response and report.
2. Affected areas defined quickly.
3. Action plan developed and implemented quickly.

For more information on managing the risks presented by asbestos contamination visit [www.qed.com.au](http://www.qed.com.au).