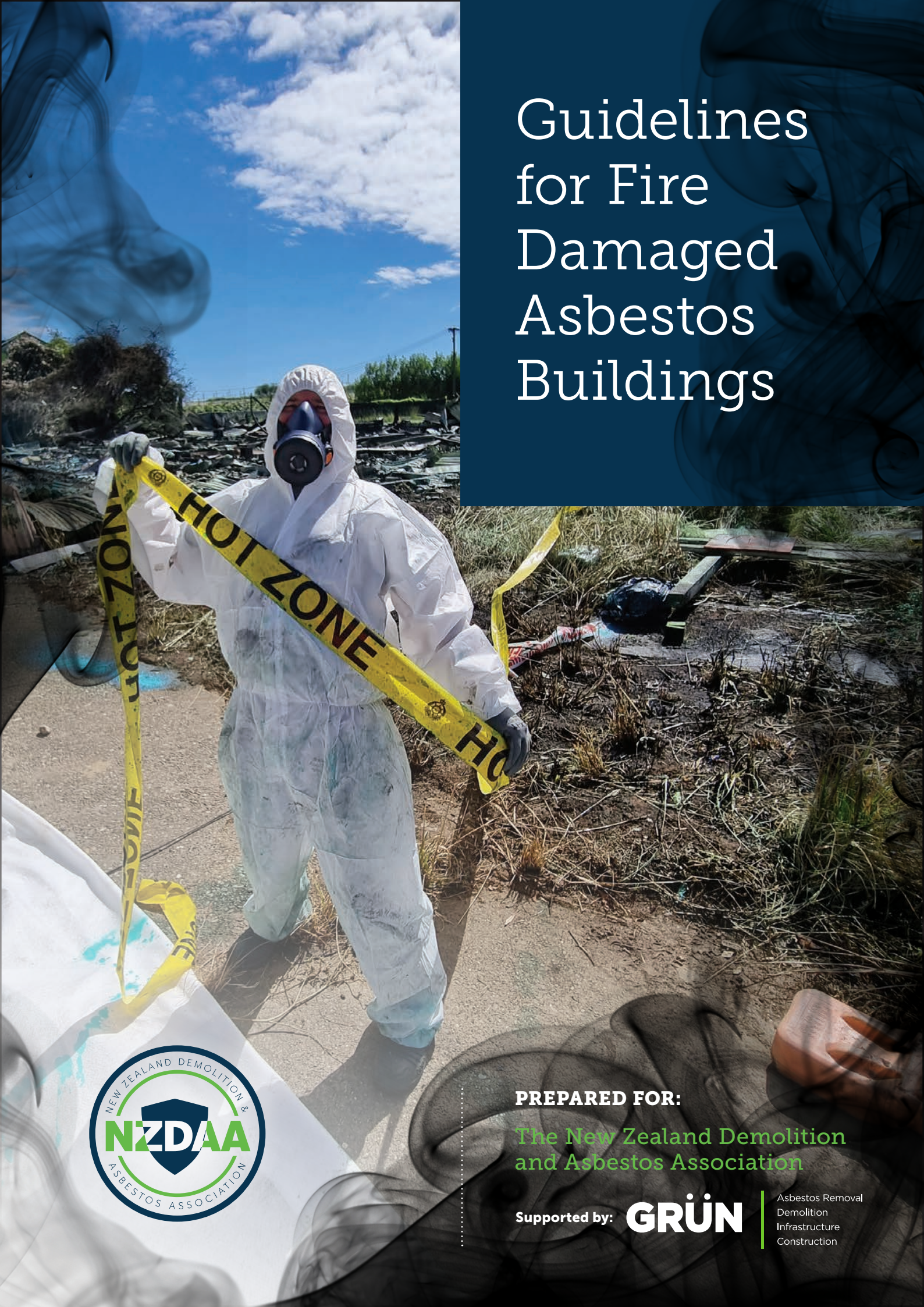
Guidelines for Fire Damaged Asbestos Buildings



PREPARED FOR:

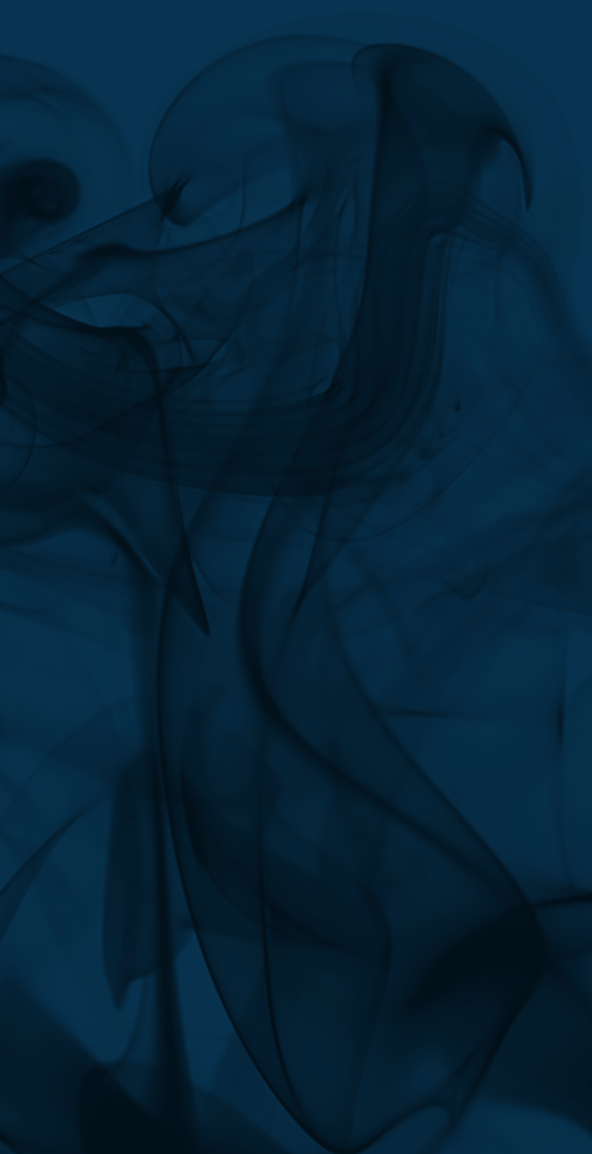
The New Zealand Demolition and Asbestos Association

Supported by: GRÜN

Asbestos Removal
Demolition
Infrastructure
Construction

Cover image supplied by:
Grün Group Limited Christchurch, New Zealand

www.grun.nz



New Zealand Demolition and Asbestos Association
Auckland, New Zealand

www.nzdaa.com

ISBN 978-0-473-63361-5
30th May 2023

CONTENTS

Scope of this document

The scope of this guidance note does not include emergency response procedures or the specific practices for demolishing or deconstructing fire-damaged buildings. For detailed guidance on those topics, please refer to the relevant NZDAA Restricted or Unrestricted Demolition Guidelines[1].

This guidance does not address other situations involving asbestos-containing materials, such as explosions, earthquakes, destructive winds and flooding. However, the general principles outlined in this document for managing this product may still apply.

This guidance note also acknowledges that other toxic products may be present before, during and after the fire, and that all parties involved in the containment and disposal process of a fire-damaged structure must take appropriate precautions to identify, manage and prevent harm to persons and the environment. Fire in structures such as factories and other commercial/industrial facilities can vary in size, intensity and type of materials involved. Chemical conversions will occur during the fire due to combustion and/or mixing with water (or foam).

Potentially hazardous facilities and combustion products

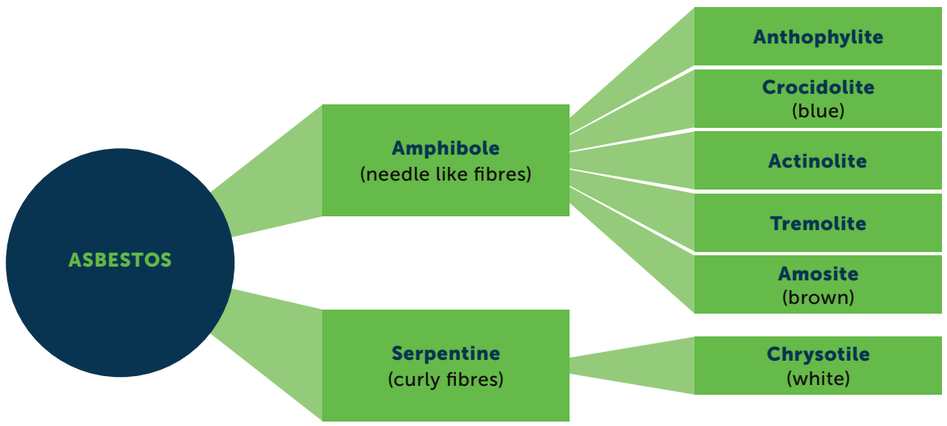
Potentially hazardous facilities may include:

- landfills and waste storage depots;
- chemical storage facilities;
- industrial facilities that use, manufacture or store chemicals;
- bulk fuel storage;
- tyre manufacture and storage;
- plastic manufacture and storage; and
- clandestine drug laboratories.

Building materials that are likely to be hazardous or produce hazardous by-products as a result of fire, in addition to Asbestos Containing Material (ACM), include:

- treated timber;
- panels containing expanded polystyrene (sandwich panels);
- paints, resins and varnishes;
- polycyclic aromatic hydrocarbons (PAHs); and
- polychlorinated biphenyls (PCBs).

These risks must also be managed by the Person Conducting a Business or Undertaking (PCBU) and under specialist contamination advice.



[1] *If you have downloaded this document from the NZDAA website, you will receive updates on guidelines, or you can register for updates at www.nzdaa.com.*

Asbestos in New Zealand

Asbestos fibres are strong and highly resilient to heat, fire, chemicals and wear, historically making asbestos popular for:

- asbestos-cement sheet cladding, roofing and drainage pipes;
- backing material for floor tiles and vinyl sheets;
- sprayed-on insulation;
- protection for insulation boards, power boards and electrical components;
- textured ceilings and sprayed-on wall surfaces;
- lagging for insulation around pipes, heaters and hot water cylinders;
- vehicle brakes and clutches; and
- spouting guttering components.

Health risks associated with asbestos exposure

All forms of asbestos pose significant health risks. Asbestos is of most concern when it has the potential to generate free respirable fibres, since inhaling significant quantities of airborne asbestos causes:

- asbestosis (scarring of lung tissue);
- mesothelioma (malignant tumours, cancers that develop around the lungs or intestine);
- pleural plaques (thickening of membranes around the lungs); and
- cancer of the lung, larynx and ovary.

Exposure to free respirable fibres often occurs in situations that emerge as a result of fire-related dispersal. Asbestos cement material tends to pose the most significant risk if exposed to fire, not only from its prevalent use in commercial, industrial, and residential structures, but also due to the potential explosive shattering (spalling, de-lamination) of the sheets and material dispersal.