

Stockpiles of goods in open yards are a typical feature of many businesses who take advantage of the land available to them. These stockpiles may include combustible items such as timber and plastic pallets, finished and raw materials, and reject waste product. The stockpiles can be of an extensive size and located against or too close to buildings.

The concerns are that a fire in an external stockpile could spread through the expanse of storage producing dense smoke, denying access to the premises and ultimately cause fire/smoke damage to buildings, stock and contents with resultant business interruption consequences.

Arson is the typical known causes of fire to an external stockpile. The Australian Institute of Criminology estimates that the property loss associated to arson in 2011 was \$971 million. In terms of frequency, the Fire and Rescue NSW 2018-2019 Annual Report identified that they responded to over 5,000 outside storage fires during this period.

In terms of risk management initiatives for timber and plastic pallets, the ideal would be to relocate all external storage to within the confines of a separate low-cost building for increased security. Experience indicates that this is not achievable for many businesses and therefore the following risk reduction measures should be implemented:

Provide clear/open space between external stockpiles and buildings

The objective is to prevent a fire in a stockpile spreading via heat radiation/conduction and flame into a building.

Clear/open space means that there should be no combustible items or structures in this separation corridor that would enable fire transmission. Maintaining this clear/open corridor is typically a challenge as many businesses have limited space for storage. Maintaining this clear space can be aided through signage and frequent inspections.

The distance of separation is dependent upon the combustibility of the pallets and the exposed building construction. The following criteria is provided for timber and plastic pallets, combustible and 2 hour fire rated building construction¹.



- Combustible construction:
 - up to 50 timber pallets = 4.5 m (9 m for plastic pallets)
 - from 51 to 200 timber pallets = 12 m (24 m for plastic pallets)
 - more than 200 timber pallets = 27 m (45 m for plastic pallets).
- Where there is a brick or concrete wall with no openings and having a minimum 2 hour fire rating:
 - up to 50 timber pallets = 1 m (2 m for plastic pallets)
 - from 51 to 200 timber pallets = 3 m (6 m for plastic pallets)
 - more than 200 timber pallets = 4.5 m (9 m for plastic pallets).

Should these separation distances between stockpiles and buildings not be achievable due to the size limitations of the site, minimising pallet numbers and providing the most separation possible will assist.

Provide clear/open space between adjacent stockpiles

The objective is to aid in early fire suppression by minimising the fire area and limiting the opportunity of fire spread from one stockpile to another.

Once again, clear/open space is to be maintained under frequent inspection and the separation distance is dependent upon the type of pallets stored. The following criteria is provided for timber and plastic pallets¹.

- up to 50 timber pallets = 4.5 m
(9 m for plastic pallets)
- from 51 to 200 timber pallets = 12 m
(24 m for plastic pallets)
- more than 200 timber pallets = 27 m
(45 m for plastic pallets).

Arson prevention

The objective is to minimise the threat of arson.

In addition to the separation of storage from buildings, where possible provide a clear/open space between the perimeter fence and stockpiles of at least 10 m. Consider:

- Secure site perimeter fencing of at least 2 m high, with lockable gates of commensurate strength (contact Vero for suggested specification).
- Automatic lighting on a timer or light sensing switch for after hours yard illumination.
- Closed circuit television (CCTV) with full coverage of the yard area and likely access points with remote monitoring, alarms and recording facilities for later review.
- After hours security patrols (at irregular intervals).
- Prominent security signage at frequent intervals around the perimeter of the site.

References

1. FM Global Property Loss Prevention Data Sheets 8-24 Idle pallet storage.

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