

Stockpiles of goods in open yard spaces 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/or plastic pallets, reject product, various waste and vehicle tyres for example. The stockpiles may be of an extraordinary size and against or close to buildings.

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

Further, stockpiles near the site perimeter fencing are a security hazard as they make access to the premises easier for unauthorised persons, increasing the risk of burglary or arson.

Arson and lightning strike are 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 after hours** 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 transmitting 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 provide for fire transmission. Maintenance of this clear/open corridor is typically a challenge as many businesses will see an opportunity of open land for more storage. Diligence and

persistence of maintaining this initiative should be undertaken by frequent inspections.

The distance of separation is dependent upon the combustibility of the item in the stockpile 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, 'best practice' would be to construct a 4 hour fire rated wall or remove pallets from the site.

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 combustibility of the item in the stockpile. 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, provide a clear/open space between the fence and stockpiles of at least 10 metres. Consider:

- ▼ Secure site perimeter fencing of at least 2 m high, with lockable gates of commensurate strength (see 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.

For more information:
www.vero.com.au/vero/business-insurance/risk-management
Contact us at riskengineering@vero.com.au