Manufacturing

vero

Making risk management more productive

While we're here to pay to claims if the worst happens, we're all about trying to keep you and your property safe and secure in the first place.

Manufacturing covers a wide range of industries and products, including production plants, factories, and even small businesses. It generally includes creating a product from raw materials or individual components, some form or production process and storage.

Manufacturers can have a wide range of machinery, plant and equipment, and processes can include the use of flammable liquids or gasses, chemicals, electricity, heat, water, pressure and mechanical manipulation to list a few.

No matter what area you specialise in, there will be risks attached, so here's how you can help reduce them.

Weather watch outs
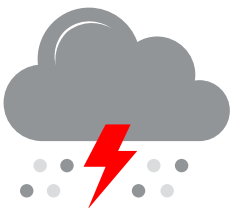
While you can't control wild weather, you can reduce the risks that come with it.

Best practice

- Be aware of what weather or flood events are likely to affect your building or business. This can help you plan what needs to be done.

- Keep trees and shrubbery well-trimmed, and remove diseased or damaged limbs. Ask a professional arborist to assess and strategically remove branches to allow wind to blow through the trees.

- Protect water and other pipes from freezing using insulation, or install heat tape

- Remove snow and hail from gutters as soon as it's safe to do so. This will reduce the possibility of subsequent rain overflowing gutters.

Must haves

✓ Make sure gutters and down pipes are not blocked by leaves or rubbish. Check before the winter season, or more frequently if needed.

✓ Inspect channel drains, yard storm water outlets and sumps and make sure they are all free-flowing and that curb side gutters are not blocked by leaves and rubbish.

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Keeping your site safe

The building should be kept secure and in good condition and not allow easy access to the interior.

Must haves

✔ **Maintain all exterior cladding in good condition, access doors, windows and their locks, latches and hinges should be in sound condition and be firmly secured to the building structures.**

✔ **Secure roller doors after-hours with pins and padlocks. For any motorised doors the electric open/close switch should be locked. For manual doors lock the chain to the building or door frame.**

✔ **Ensure that there is a regular maintenance schedule in place that checks:**

- Check and clean the roof regularly. This is important before the winter season and after storms. Pay attention to membrane-style roof coverings as these have a limited life and can be affected by environmental exposures.

- Check flashings where the walls and roof meet, and also pipes and skylights where they penetrate the roof covering.

- Ensure there are no holes in fire walls and that any fire doors can close freely. Keep areas around fire doors clear of obstruction.

- Protect fragile or exposed cladding with bollards, barriers or steel bars to prevent impact damage occurring.

Forkhoists and goods-handling equipment
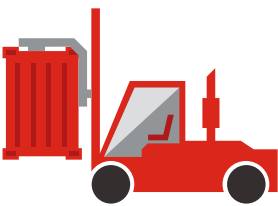
Good practice for goods-handling.

Best practice

- Provide maximum height signage to make sure there are no collisions with canopies and overhangs.

- Store spare LPG fuel tank cylinders upright and chained to stop them falling over. Protect them from impact.

Must haves

✔ **Make sure anyone operating forkhoists or goods-handling equipment is properly trained and hold the relevant licenses.**

✔ **Battery chargers for forkhoists and goods-handling equipment should be located away from combustibles, ideally in a separate 60-minute fire rated room. The area around chargers should be clear of combustibles.**

# Vehicle impacts

Reducing the chance of vehicle impacts.

Best practice

- Provide maximum height signage to make sure there are no collisions with canopies and overhangs.

- Consider creating a one-way traffic flow on site.

Must haves

✓ Protect vulnerable areas of the building – for example loading docks, plant, transformers and parking areas with sturdy bollards.

Keeping it secure
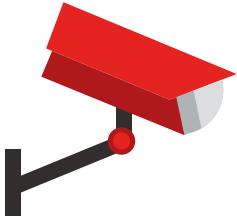
Keep your goods safe, and intruders out.

Best practice

- Set up CCTV both inside and out — think high definition, motion sensing and infrared, to for clear images.

- Have a secure storage area for high value raw materials or finished product.

- Fenced yards should be checked regularly for any breaks. Keep stock and wooden pallets at least 1m of the fence line to prevent easy access by intruders.

Must haves

✓ Yard areas should be fenced with a high fence and secure gate. Use a close shackle or protected padlock to secure gates so it's hard to tamper with and don't leave it unlocked on the gate.

✓ Keep all outside areas well-lit, especially in an isolated location. Consider daylight sensors or timers to automatically switch lights on.

✓ Get a monitored intruder alarm system with security patrol response. Your alarms should be maintained professionally and checked each year. Random security patrols are also helpful.

✓ Position alarm sensors so that break ins are detected early — locate PIR sensors near doors and have 360° PIR sensors in other areas, especially if building walls can be easily breached.

Watching out for water damage

With routine checks and a proper plan, the risks can be seriously reduced.

Best practice

- Know where the water shut off valve(s) are for the water supply. Where possible, shut off the water supply during extended shut downs or when not needed e.g. over the summer holidays or in an unoccupied building.

- Ensure flexi-hoses are checked regularly and replaced if showing signs of damage — or every 10 years otherwise.

- Inspect plumbing, water pipes and waste lines for leaks, damage or corrosion. Check that all basins, tanks, etc have overflow facilities. Process tanks should be bunded.

Reducing the fire risk

Having the correct equipment and protection in place can reduce the potential for loss.

Best practice

- Consider installing a monitored fire detection system with smoke and heat detectors – but make sure the detector unit you choose is suitable for your site to avoid false alarms. Ideally it should meet the standards of NZS 4512, but it could be more economical to link fire detection to your intruder alarm system.

- Make sure your team is aware of how high they should stack goods in sprinkler protected buildings – as well as the types of things that can be stored. This will all affect how effectively a sprinkler system controls and extinguishes a fire.

- Have proper procedures in place if fire systems like the sprinkler system is out of commission for more than a few hours i.e. an impairment procedure.

- Investigate whether specialist fire protection systems such as fixed gas flooding or foam drenching systems are required to best protect specific areas or process equipment.

- Ensure that staff are trained in the proper use of any fire extinguishers.

Must haves

- ✔ Have an appropriate number of fire extinguishers located throughout the site which can be easily accessed by staff. The size and type of fire extinguishers will depend on the size of the factory, the processes, and what's being manufactured. CO2 fire extinguishers work best on electrical equipment, while dry powder extinguishers are a good multi-purpose option. For flammable liquid fires a foam extinguisher is best. Get specialist advice from your fire equipment supplier.

- ✔ Make sure all your fire extinguishers and hoses are checked and maintained by an FPANZ certified contractor at least once a year.

Maintenance

Making sure your building and all plant and equipment is well maintained.
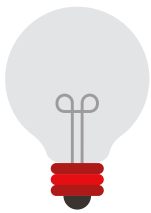
Best practice

- Consider preventative or programmed maintenance routines for critical plant and equipment.

Must haves

✔ Maintain plant and equipment to the manufacturer's guidelines.

Electrical and lighting

Faulty or damaged electrical systems can lead to fires.

Best practice

- Test and tagging all portable electrical equipment. Keep Use of extension leads and power boards should be kept to a minimum. Damaged leads and boards should not be used.

- Get an electrician to do thermographic imaging of switchboards to identify elevated temperatures (which can indicate potential failure) and overloading.

- Make sure periodic verification (visual inspection and limited testing) is undertaken for older switchboards, where there are ongoing electrical problems or where the electrical system shows signs of wear and tear. An electrician will be able to advise. This provides a comprehensive check of the entire electrical system.

- Considering the benefits of replacing exit lighting with LED alternatives.

Must haves

✔ Have an electrician undertake regular checks of the electrical system to identify faults, elevated temperatures or overloading.

✔ Maintain all electrical equipment according to the manufacturer's guidelines.

✔ Switch off any high intensity discharge lights for at least 15 minutes each week. This will reduce the possibility of them failing whilst hot and potentially resulting in a fire.

✔ Ensure lighting systems are in good working order, replace faulty fluorescent lamps when they are not lighting properly and following the manufacturer's guidelines as to the replacement schedule of HID lamps.

Handling hazardous substances

Store and handle hazardous substances properly.

Best practice

- Store bulk liquids e.g. hydraulic oils or lubricants in a bunded area to contain spillages.

- Consider installing emergency automatic shut off valves to plant and equipment that uses hazardous substances to prevent uncontrolled release of the substance.

Must haves

✔ Separate non compatible substances, limit quantities to the minimum necessary for daily operations, and check if licensing is required. Small quantities can be kept in dangerous goods cabinets, larger quantities must be kept in a dangerous goods store, or separate area within the building.

✔ Secure and chain all gas cylinders in place.

Housekeeping
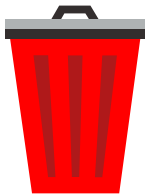
A good housekeeping routine will help to reduce loss.

Best practice

- Keep stock on pallets where possible. This raises them off floor and limits damage if the warehouse floods.

- Don't over-stack goods, especially in a sprinkler protected building. Over-stacking can result in the sprinkler system failing to control a fire.

Must haves

✔ Store raw materials, materials in process and finished products neatly at all stages of the manufacturing process.

✔ Keep areas around plant, equipment, battery chargers and other electrical components clear of combustibles, ensure regular checks to assist with this.

✔ Clean plant and equipment to remove dust, oils, debris or residue from the manufacturing process. The manufacturers guidelines are a good place to start in determining what needs to be done.

✔ Maintain clear aisles between plant, equipment, storage racks and products in loading areas.

✔ Keep waste and recycle bins/skips at least 10m away from the building as these are targets for arson.

Management controls

Have controls in place to manage activities that could result in a fire or other loss.

Must haves

✔ Have a robust self-inspection routine which ensures that everything is as it should be, that safety and risk management policies are being followed, that manufacturing and housekeeping standards are being maintained, and maintenance activities are up to date and identify problem areas.

✔ Implement a permit to work system to control hazardous activities such as welding, grinding and other dangerous activities e.g. hot work controls, electrical isolation procedures etc.

✔ Ensure that proper procedures are in place if fire systems like the sprinkler system is out of commission for more than a few hours.

✔ Control smoking on site and limit this to a designated smoking area with suitable containers for the safe disposal of smoking materials.

Business interruption

Have strong business recovery measures in place in case of a disaster or shut-down.

Best practice

• Make sure critical spare parts are readily available for continued workflows of important equipment.

• Invest in a business continuity plan providing guidance on the process for prioritising activities, functions or services following an incident that disrupts the business.

• Consider engaging a professional to assess the vulnerability of your cyber-security, especially if you maintain confidential records such as a customer databases or bank account details.

Must haves

✔ Ensure all critical data (including any digital records of the tools and die for extrusions, for example) is backed up at least weekly and stored off site — this can include secure cloud services.

✔ Install antivirus protection on your computer and update regularly. Important paper records should be kept in a fireproof box/cabinet.

Visit **vero.co.nz/risk-profiler** to check out our other advice sheets for more tips and in-depth information about managing risk.

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