Flooring equipment

Equipment needed for flooring is generally expensive and is often used by more than one person in a flooring company. When the care and responsibility for flooring equipment is shared it is not unusual for flooring equipment to get a hard life. To get the most use out of flooring equipment, it is the responsibility of everyone that uses the equipment to make sure that it is cared for, maintained and stored in a ready-for-use condition for the next job, or for the next person that may need to use it.

This resource book steps works through the:

- ✓ identifying flooring equipment;
- ✓ it's use; and
- ✓ how to maintain and store it.

Work through this resource book with your trainer. Ask your trainer questions about maintaining and storing flooring equipment in your workplace.

Preparation and fine finishing equipment



Description

A floor sanding machine with a circular sanding disc; they are available with either a gear driven disc or a belt driven disc. The machines have a self-vacuum that sucks dust into a dust bag, or a hose connection to a separate vacuum system.

Use

Edging machines are used for sanding edges and small areas where a larger machine cannot reach. Course, medium or fine sanding is possible by using different grade sand paper and adjusting the wheel height. The gear driven disc machine can be used for both fine and course sanding work i.e. fine sanding for polyurethane and removing old adhesive from a floor. The belt driven model is designed for fine sanding timber floors. Using it to remove stubborn adhesive can cause the belt to stretch and slip.

- Keep the electrical cord well away from the sanding disc when working. There are strap on clips available that help to keep the cord away from the sanding disc.
- Check the cord before use and get it repaired by a certified person if it is damaged.
- Regularly clean down the machine with an air blow gun or a vacuum cleaner.
- Keep the wheels clean. Use a sharp straight blade to **lightly** scrape off anything that sticks to the wheels. Do not use sand paper or solvents for this job as it may damage the wheel by changing its shape. An out of shape wheel can cause uneven sanding.
- Periodically clean the dust bags by turning them inside out and vacuuming. Repair any holes; this will help to keep the dust down which is good for you and your customer.

For machines that have commutator brushes, check for sparking. Lots of sparking at the top of the motor might mean that the commutator brushes need replacing.

• Worn brushes can cause damage to the motor.





To help keep dust down to a minimum, empty the dust bag before it reaches is 1/3 full.

 Replace the pad on the bottom if it becomes badly damaged or if the pad edge is worn through to the metal rim.
 Thin metal rim



• To avoid a fire, always remove a dust bag from a sanding machine when it is not being used.

Did you know?



Source: Lagler Australia

Dust bags left on sanding machines can catch on fire. The example below is a rotary sanding machine left outside on a \$6000.00 Merbau deck during a hot day. It burnt a hole right through the deck. The inexperienced floor sander borrowed the machine from a firm to do a "love job" for a friend. To adjust the set-up of the machine, place the same type of coins under each wheel.

This will cause the pad to cut at 12 o'clock (on the nose).

Before using, test the machine by lightly touching the machine on the floor to see where it is cutting. Depending on the operator's preference, adjust the right wheel up slightly to cut at 1 o'clock, or adjust the left wheel slightly up to cut at 11.00 o'clock.



Coins used to adjust wheel height







Controlling Dust

- Dust containment systems are the safest method of minimising dust when using sanding machinery
- Hepa filters stands for High-Efficiency Particulate Air

The three classes are 'L', 'M' and 'H' (Low, Medium and High Hazard).

Class 'L' – Dust represents a moderate risk to the operators – The vacuum's filters trap over 99% of the dust with a grain size of under 2 microns

Class 'M' – Dust represents a medium risk to the operators – The vacuum's filters trap over 99.9% of the dust with a grain size of under 2 microns

Class 'H' – Dust represents a high risk to the operators – The vacuum's filter traps over 99.995% of dust with a grain size of under 1 micron which includes carcinogenic dusts and dusts contaminated with pathogens

FOR SILICA DUST: Use an H-class vacuum cleaner in accordance with Standard AS/NZS 60335.2.69. This includes when working at someone's home (eg to fit a bench). Workers should not use a household vacuum cleaner to remove dust. (Work Safe)

Machines with dust bags (wood dust)

- If the dust bag is not fully inflating, look for a blockage. If there is no blockage check for any wear of the impellor (see the manual for how to do this). An impellor is like a fan blade that creates a vacuum.
- Periodically clean the dust bags by turning them inside out and vacuuming.
 Repair any holes; this will help to keep the dust down; which is good for you and your customer.
- Regularly clean down the machine with an air gun or a vacuum cleaner. Appropriate Where PPE gear when doing this task.
- To help keep dust down to a minimum, empty the dust bag before it is 1/3 full.
- To avoid a fire, always remove a dust bag from a sanding machine when it is not being used.

When transporting, firmly strap or fix the machine in so that it will not move around during travelling.









Description

A floor sanding machine with a circular sanding disc, or discs. Dust is controlled by different methods e.g. a dust bag, a hose connection to a separate vacuum system, or a self-contained filtered dust system.

Use

Single rotary machine

- Removing any small loose lumps of plaster/paint on a concrete/timber substrate.
- Levelling out any hardened trowel marks from screed/repairing compounds.
- Smoothing out edges and staple head swelling marks when installing new board underlay.
- Sanding out any drum/edging machine marks before applying a coating to a timber floor.
- Fine sanding between polyurethane coats; to remove any dust that has settled on the previous coating while it was drying.

Multi disc rotary machine

• Designed for timber floor finishing i.e. parquet, strip flooring, cork flooring and prefinished timber floors.

Care

Always check for any nail heads/screws that jut out of the floor before sanding.

- Depending on why the nail is there, you will need to either remove the nail or punch the nail slightly below the surface of the floor with a hammer and nail punch.
 - ✗ Driving the sanding machine over a nail head that juts above the surface will damage both the sandpaper and the disc.
 - * Sparks from hitting a nail head may also cause a dust bag to catch on fire.



Leads

 Leads should be certified and regularly checked for damage. Any repairs should be made by a registered electrician.
 Lever to unclog filter

Filter systems

• For machines that have a filter system there will be a lever or handle that can be used to unclog the filter. Check your manual for when to do this, and how to maintain the filter.

Dust bags

- Older machines that have dust bags; periodically clean the dust bags by turning them inside out and vacuuming. Repair any holes that appear. This will help to keep the dust down which is good for you and your customer.
- Regularly clean down the machine with an air blow gun or a vacuum cleaner.
- To help keep the dust down, empty the dust bag before it is 1/3 full.
- To avoid a fire, always remove a dust bag from a sanding machine when it is not in use.



Hand sanding machines are used for fine finishing of timber floors i.e. steps, landings, edges or tricky areas where hand sanding is usually needed. They need to be cared for and stored in the same manner of other sanding machines.

When transporting, make sure any hand sanding machines are well secured so that they will not move around during travelling. Small machines that are not secured can be become a dangerous missile in a van if it has to stop in a hurry.

Always wear ear protection and a suitable dust respirator as wood dust can be hazardous to your health. Keep dust down to a minimum; always empty vacuum bags and systems before they become overloaded.



FIRE

Grinding machines





Hand grinding machine

Single disc grinding machine



Multi disc grinding machine

Description

Hand grinding machine

Small hand held machine that drives a single rotary grinding cup. Diamond segments are fixed to the cup. There are many different cup shapes, diamond segments and other newer abrasive technologies available.

Stand up grinding machine

A large powerful grinding machine with a single plate or small multiple plates that turn in opposing directions. The plates have diamond segments fixed to it or segments that are easily changed.



Diamond segments

Hand grinding machine cups

Diamond plates and segments: Source Holer

Use

Hand grinding machine

Grinding small areas; edges or tricky areas that a large machine will not fit into. Grinding machines are used to remove old adhesive, paint, vinyl, smooth rough concrete etc. Because not every job is the same there are many different types of grinding cups available.

The dust extracting system should be matched to the Grinding machines and have a Hepa filter. The motors should have a soft start switch (starts slowly) to prevent "kick back" on start up. Grinders that do not have a soft start can damage the electric circuits on the dust extractor it is connected to. Electric circuits on small dust extractors must be heavier enough to handle the power surge on start up.

Stand up grinding machines

Grinding larger areas where hand grinding machines are not suitable. Like hand grinding machines there are many different types of diamond segments available.

Care

Servicing

• Service the grinder at the recommended time periods.

Machines with motors that have electrical brushes

• Check for sparking at commutator brushes. Lots of sparking around the motor might mean that the communicator brushes need replacing. Worn brushes can cause damage to the motor.

Leads

• Leads should be certified and regularly checked for damage. Any repairs should be made by a person that is certified to do this.

Protective skirt

 When setting up to grind a floor leave a small gap where the protective skirt ends will meet. A small gap allowing air flow will stop the machine from sucking to the floor when grinding; as a consequence if the machine is sucking to the floor the motor will be overworking, the grinder will be difficult to control and the gears and bearings will overheat. Some later model machines have an adjustment valve to control the airflow.



Protective skirt

Use the correct Diamond cups/segments

 Diamonds used in grinding cups are synthetic diamonds (man-made diamonds) and are harder than natural diamonds. Similar to sand paper, different sized diamonds are used to create fine or course grinding. The diamonds are bonded into a metal or resin bond. As the bond wears down during grinding, new diamonds are exposed. To suit hard or soft concrete surfaces the bond will also be soft or hard.

Cups must be used for what they are designed

 If a cup is designed for a hard concrete surface and is used on concrete with a soft sandy surface (soft surfaces are more abrasive) the bond will wear down quickly. This will expose the diamonds faster and therefore will wear down faster. As a general rule a soft bond is used on a hard surface and a hard bond for a softer surface.

Cleaning

• Regularly clean down the machine with an air blow gun or a vacuum cleaner.



A dust extractor is a high tech powerful vacuum cleaner with a heavy hose that connects to a grinding or sanding machine. Dust particles are separated by filters and then fall to the bottom where a plastic bag collects the dust. Shaking mechanisms or reverse air stream is periodically used to help stop the filters from blocking.

Separator

A separator is **a** portable storage cylinder for collecting dust. It is connected between the grinding/sanding machine and the dust extractor. These can work by either an inertial separation or cyclonic separation. Inertial separation works as the airstream passes over a larger space of the cylinder, the particles fall to the bottom. Cyclonic separation uses

centrifugal force to separate the particles from the air stream. As the air and particles spin inside the cylinder, the dust is forced against the wall of the cylinder, gravity takes over and the dust falls to the bottom while



the airstream and very light dust particles continues to be sucked towards the extractor.

Vacuum cleaner

An industrial vacuum cleaner is a heavy duty vacuum cleaner. The motor creates enough vacuum to suck through both the filter and replaceable bag where the dust particles are collected.

Use

Dust extractor

Dust extractors are used to collect dust from grinding or sanding machines. There is also an attachment for normal vacuuming. Although dust extractors are designed for sucking up masonry and timber dust, some machines need different type filters. If you are not sure, check with the operating manual.

Separator

A separator joins between the grinding machine and the dust extractor. It is used for large areas and is the collector of most of the dust particles.

Care

Dust extractor

- Read the instruction manual on how to clean the filters. Dust extractors will have a self-cleaning mechanism that should be used regularly during the day to keep the filters clean.
- Both wood and masonry dust is extremely harsh on motors and filters. To lengthen the life of the dust extractor, service the equipment when recommended.

Vacuum cleaner



- Empty bag before one third full.
- Use the right vacuum head for the job. Domestic vacuum heads used on concrete will wear very quickly and expose metal plates and screw heads. If at a later stage you are using the same vacuum on a vinyl, or timber floor, you may scratch and damage the flooring surface.
- Always check beneath the cleaner head for wear on wheels and the brushes. Remove anything that may get caught in the brushes.
- Occasionally clean down the vacuum and filters with an air blow gun or another old vacuum cleaner.
 Wheels
- Store vacuum cleaners with the bag emptied ready to use for the next job.



Metal plate, screws

Brushes

Mechanical Stripper



Description

A machine that pushes a large scraper blade.

Use

For removing flooring materials that are stuck to a substrate.

Care

• Avoid injury or damage by protecting the blade when not in use and when transporting.



- Check the blade is correctly fitted. Some machines have different blades for concrete and wood substrates.
- You may still need to cut the flooring material into strips before using the stripper.
- Regularly clean off old adhesive from the wheels.



Description

A portable cylinder that holds the air that is created from its own electric pump.

Use

For operating air guns used for stapling/nailing board underlay to wooden substrates, keeping tools and equipment clean by blowing down with air.

- Turn the machine on and off using the compressor switch.
- Because all jobs are different adjust the pressure before you use it.
- When finished, empty the cylinder of air to get rid of any water/ moisture build up.
 Take care when releasing the air as moisture build up in the cylinder may cause a rusty stain on the floor.
- Service according to manufacturer's recommendations.
- Never lay a compressor on its side as any oil inside the motor may rise to the top of the motor causing damage.
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- Repair or replace leaking hose connections. Leaking air will cause the motor to overwork as it will want to keep up to maintain the pressure.
- When transporting, make sure a compressor is supported/strapped so it will not move about or fall over.
- Compressors should be stored in a dry safe area that is free from possible damage to the delicate gauges.
- Leads and air hoses should be tidily coiled up.



Description

Staple gun - air operated gun that shoots out staples.

Air blow gun - a handle with a trigger that controls a high stream of air through a fine nozzle.

Secret nailing gun - air and impact operated nailing gun. It has a hardened metal head that is angle designed to cramp tongue and groove flooring and insert nails all in the one process.

Use

Staple gun - used to staple board underlay as preparation for resilient floor coverings.

Secret nailing gun - used to cramp and secret nail between the joints of a Tongue and Groove floor board. The nails because they are between the boards are not visible at the finished surface.

Concrete T Nailer - used for nailing carpet gripper to a concrete substrate.

Air blow gun - used to clean down tools and equipment. The fine pressure of air gets into tiny areas that can normally be difficult to get at.

Care

Air blow gun

- Do not use where dust and particles will cause damage or make a mess in the area i.e. cleaning down a grinder in a car park and the dust settles on vehicles.
- Wear your safety equipment e.g. safety glasses to prevent injury to eyes, respiratory masks to prevent lung damage from airborne dust particles and ear muffs to prevent damage to hearing.
- If your air gun is leaking, get it repaired or have it replaced.

Staple/Nail gun

• Never use in a dangerous manner as serious injuries can happen.







- Service air guns according to the manufacturer's recommendations.
- The occasional drop of the recommended light oil is used to lubricate O rings and protect metal parts from corroding. Never over-oil as this can also cause damage.
- Familiarise yourself with the care and maintenance routine for air guns.
- Only use the recommended nails/staples for the gun.



Description

An electrical powered drill.

Use

Mixing Drill

For mixing floor surfacing compounds, moisture barriers, epoxy adhesives etc. Mixing drills need to have a very powerful motor to cope with the drag created by mixing. They have a soft start to avoid product from splattering out on start up. The speeds are variable to suit the different viscosity of products e.g. floor levelling compounds are thicker than paint.

Masonry Drill

For drilling holes into concrete. Used in flooring to fix stair nosings, floor bars, carpet gripper etc. to a concrete substrate. Masonry drills have a very powerful motor that impacts the drill bit into the concrete with a vibrating hammer action. Fixing to concrete is made possible by first drilling a hole then inserting the appropriate sized rawl plug (plastic or fibre) into it. By winding a screw or hammering a nail into the plug pushes the plug against the concrete wall of the drilled hole, jamming the screw/nail into place.

Battery Drill

For drilling holes into wood/metal or screwing/unscrewing screws e.g. fitting floor bars, stair nosings, taking off doors etc. Battery drills are convenient in that a power cord does not need to be set up and where there is no power available.

Power Drill

For drilling holes into wood or metal. Some power drills also have a hammer action for drilling into concrete, however for large amounts of concrete work, purpose built masonry drills are better suited for concrete work.

- Avoid damage to the drill and injury by choosing and using the right drill for the job.
- Avoid injury by always making sure products that you are drilling are secure; use a vice or clamp for difficult materials e.g. small pieces of wood, bars etc. Never hold small materials in your hand and drill a hole. The force may twist the material in your hand and cause an injury.
- Do not force or over work the drill. Give the drill a break to cool off if drilling for long periods.
- Avoid getting burnt by not touching the drill bit immediately after use.
- Never place a drill near or on a power lead. After drilling the hot drill bit can melt through a plastic casing.
- Always keep battery drills charged.
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- Avoid injury, damage to the motor and/or breaking the drill bit by not using blunt or the incorrect size/type drill bits.
- Check the lead and switch regularly for any wear and tear and if needed have it repaired by an electrician.
- Read the care and maintenance sheet.

Electrical extension leads





Coiled 2.5mm heavy duty extension lead

Coiled 1.5mm extension lead

Description

Extension lead that delivers electrical power.

Use

To provide power to electrically powered equipment.

Choose the correct type of extension lead for the job e.g. floor sanders have large electric motors that draw a lot of current and need heavy duty leads with large gauge wires e.g. 2.5mm. Using long leads or a lead that is not heavy enough will cause voltage drop. Voltage drop is similar to losing water pressure in a water pipe. The electrical current faces friction as it travels long distances therefore reducing the energy level of the electrical current when it reaches the motor. Not having enough current running through to electric motors causes the wires in the motor to over-heat resulting in burn out. Also thin gauge leads will heat up and may cause fuses to blow.

- All extension leads should be tested and tagged to the standard AS/NZS 3760:2003.
- Regularly check leads for signs of the casings cracking, damage, wires showing through etc. If you find damage or a lead that has been taped as an attempted repair then do not use it, organise to get the lead fixed or replaced.



- Always uncoil your lead when in use. Using a lead that is coiled can cause the lead to heat up.
- Leads wound too tightly will damage the fibres that separate the wires inside the casing, as a result the wires twist over each other. Ask your trainer to show you their method of winding a lead. A safe method of winding a lead is the 'Over and Under' method used by musicians and video people. Their cables damage very easily if they start twisting. Have a look at the photos below then have a go; be patient, while it might take a little time to get used to, it is a very quick method of coiling a lead once it is learned.



1. Bring the hand holding the lead <u>over</u> to make a loop that has no tension.

2. Bring hand around and flick inwards to form the loop. The back of hand should finish <u>under</u> the palm of the hand that is holding the plug.

When a neat coil is made, keep the male and female plug ends on the outer sides of the coil and tie the lead, this will allow the lead to be unwound without tangling. Male



Lead neatly coiled without twisting

3. Repeat the Over and Under process.

Lead twisting under tension

Resilient Flooring Equipment



Description

Heavy metal rollers that run on a removable axle through a frame. Rollers are available with different weighted rollers to suit domestic resilient, commercial resilient, and carpet. Common weights are 75 lb (pound) = 34 kilos, 100 lb = 45 kilos and 150 lb = 68 kilos.

Use

- To bed the flooring material into the adhesive and make sure there is a good adhesive transfer.
- Spread out any adhesive trowel ridges.
- To push out any trapped air that is beneath the floor covering.
- Use the appropriate weighted roller for the correct material. For example a very heavy roller may damage some domestic vinyls. The roller should be first pushed across the shortest distance of the flooring material so it forces out any trapped air. Unless the length is shorter than the width of the material, rolling moves across the width of the sheet rather than the length; some installers prefer to first use a soft broom or wall roller to expel any trapped air. Rolling is a very important part of installing floorcoverings so good awareness is needed during this task. Always be on the lookout for any substrate waviness and air bubbles when rolling and make sure the entire area is evenly covered.

- Always keep rollers clean and free from adhesive and anything that may stick to the rollers. Resilient floor coverings can be easily dented if a small stone or piece of plaster stuck to the roller imprints itself into the vinyl.
- To prevent a squeaking or screeching roller, lightly lubricate the axle or yoke. Most
 rollers have a clip that easily releases the yoke. Clean down the yoke with cleaning
 wipes and very lightly apply a few drops of lubricant i.e. cycle gear dry lubricant.
 Never over lubricate. Over lubricating may cause a build-up of lubricant and attract
 dirt which can eventually turn into small solid lumps. If a lumps fall onto the floor
 coverings while rolling they will be smeared about with the roller.



Description

Liquid Petroleum Gas (LPG) bottle with hose and blow torch.

Use

For applying heat to soften commercial homogeneous vinyl when either uplifting or installing.

- LPG bottles have imprinted on them when they must be checked. Never use or try and fill an LPG bottle after the expiry date is past.
- Whenever the bottle is not in use, turn off the main valve at the head of the bottle and carefully release any gas that is in the hose. Do not turn off at the torch end only. If the connection develops a leak or the hose ruptures under the pressure, gas will leak creating an extremely dangerous situation.
- Never apply too much heat that will burn vinyl. Burnt vinyl releases poisonous gasses which are harmful.
- Use a secure stand to place the torch in when it is burning. Be careful that the hose does not loop over the burning torch allowing the torch to burn through the hose.
- Never leave a torch that is burning or turn your back on a burning flame.
- Avoid getting burnt by picking up a torch by the handle, not the hot end.
- Always repair immediately any faulty valves or hoses.
- Secure firmly when transporting.
- Take all precautions to protect yourself and others when using e.g. informing customers and other tradesman where needed, establishing signs and barriers, identifying fire alarms, not using near flammable products etc.
- Store out of the sun and away from any naked flames or source of ignition.
- Coil up the hose neatly. Make sure all the gas has been released from the hose.

Heat gun





Description

An electric flameless gun that creates a hot stream of air.

Use

For applying heat to soften commercial homogeneous vinyl when either uplifting or installing.



- Avoid getting burnt by picking up a heat gun by the handle, not the hot end.
- Never apply too much heat that will burn vinyl. Burnt vinyl releases poisonous gasses which are harmful.
- Some heat guns have a hot and cold setting. Running the gun on the cold setting to cool down the element before switching off the gun helps to prevent element burn out.
- To prevent damage or a fire never leave the gun unattended or leave the room when the gun is operating.
- Check the lead and switch regularly for any wear and tear and if needed have it repaired by an electrician.
- Heat guns and their elements are very delicate so treat them with care.

Electric groover



Description

Electric routing machine that routs (grooves) commercial vinyl flooring.

Use

To groove out homogeneous and commercial heterogeneous vinyl in preparation for thermo welding seams together.

Care

- Do not use on safety vinyls that have metal filings as part of their make-up. Doing so will blunt the blade.
- Check before using that the depth is correctly set by testing on a sample piece of vinyl. Thermo welding for solid homogeneous vinyls (not acoustic vinyls) is often two thirds depth of the vinyl.
- Always use ear muffs.
- When using make sure the area is clear from the lead getting tangled as the groover is moving along the join.
- For groovers that have vacuum bags always empty when one third full and/or immediately when finished.
- Check the lead and switch regularly for any wear and tear and if needed have it repaired by an electrician.
- Store in a safe dry place, secure in an appropriately designed box or on a shelf where it will not be damaged.





Source Leister



Description

An electric heat gun that creates hot air which is blown through a fine tip. The stream of hot air is controlled by a thermostat.

Use

To thermo weld joins of PVC commercial heterogeneous vinyl, PVC homogeneous vinyl and linoleum.

- Check the gun has reached the correct temperature by testing on a scrap of vinyl first or melting the weld rod without the tip on; if it burns it is too hot. All vinyls and weld rods vary in PVC content as well as surface finishes e.g. PUR, PU, Factory seal, therefore the welding temperature needed will also vary.
- Use the <u>correct nozzle for the type of material you are welding e.g. the Tarkett speed</u> welding tip or a weld tip with a fine airflow is designed for welding commercial heterogeneous and high PVC polyurethane treated (PU-PUR). The thin airflow prevents crazing and burning.
- Trim weld rod in two cuts using the trimming guide. Be careful that the trimming guide does not damage the sharp edge of the trimming knife.
- Run the thermo welding gun on a cool setting before turning it off.
 Turning off the gun when running on hot can damage the element.
- Treat with care at all times. The element (see picture) that is situated in the neck of the gun is extremely delicate and can easily break if the gun is dropped.
- Regularly check the back intake vents (see picture) for a build-up of dust. If the vents are allowed to clog the motor may overheat.
- Do not tap the weld tip on with a hammer. Cool the gun before removing and use pliers to remove or adjust.







- Keep the weld tip clean using the brush.
- Keep the swan neck nozzle clean at all times using a wet rag and brush. This will stop the end building up with burnt PVC weld rod. Do not use sand paper to clean the tip as it can rough up the end.
- Wait until the gun cools off before putting it away in a case.

Carpet tools



Description

An iron with a grooved bottom plate that is designed to melt thermo plastic heat tape adhesive when it comes in touch with it. The iron is pushed along the heat tape melting the adhesive as it moves. The adhesive sets as it cools.

Use

Traditional Heat iron

For bonding carpet joins together on conventional, direct stick and double stick installation methods.

Wide Heat iron

For bonding long seams e.g. in lounge and living areas. The width of the iron makes small joins e.g. doorways etc. difficult. The purpose for using wide heat irons is to reduce the visibility of peaking seams.

Care

• Clean the adhesive off the iron bottom immediately after use by wiping the bottom of the iron on a scrap of wool carpet (not the carpet you are working on). Adhesive build

up on the bottom plate will eventually burn into a black crud. This black crud can act as a barrier and will reduce the heat generated by the iron; the temperature will then need to be increased on the iron to be effective. Too much heat from a heat iron can burst the pile as the twist in the yarn in some cases is heat/steam set; as a result making the seam white in appearance.

 Irons that have a build-up of adhesive on the bottom plate tend to produce large amounts of smoke when first started up. This is not only hazardous to your health but it is not a professional look in a customer's house. Smoke alarms may also be set off.



• Cleaning excess adhesive off the tray of the iron can be removed by placing the tray in a freezer (not the customers) then tapping the cooled adhesive out of the tray.

- New irons have a non-stick bottom that has a limited life span. When this no longer works a wire brush can be used periodically to clean the bottom plate.
- Parts for irons are available for most brands e.g. elements, thermostats, handles etc.
- Check the lead and plug for any wear or damage and organise repairs immediately. Replace the thermostat if it jambs on to a fixed setting.

Kool Glide



Description

An iron that is designed to melt thermo plastic adhesive by way of an electrical field between the bottom of the iron and a special designed tape that includes metal elements in it. As a result there is very little heat exchanged through the carpet.

Use

For bonding together carpet joins on conventional, direct stick and double stick methods. In contrast to conventional irons the Kool Glide does not physically touch the adhesive on the tape. The iron sits on top of the carpet as it moves along the seam.

Care

The Kool Glide is relatively new technology to the NZ flooring industry. Read thoroughly the instructions on care and maintenance.



Description

A power stretcher comprises of a head, adjustable pipes and a foot. The head has sharp pins beneath that are angled slightly forward to grip into the carpet backing. A pump action handle is attached that levers the head forward. Adjustable tubes are connected between the head and foot. The foot is placed against a sturdy fixture (generally the wall skirting) and takes the pressure as the handle levers the head forward.

Although all stretchers are similar in their make-up there have been slight improvements made over the years. For example; a lock on the handle, a swivel head, wheels on the stretcher foot, quick release pipes.

Power stretchers are available in junior and senior models. The senior model is overall larger in the head, pipes and foot. It is not so common these days as carpet is direct or double stick in commercial/institution type buildings. The more common lighter junior model is designed for residential use.

Use

Power stretchers are used for stretching carpet into place during a conventional installation. By placing the carpet under consistent tension any bubbles, creases etc. can be removed, patterns and textures can be aligned. The power stretcher is an essential piece of equipment for a carpet installer as its use is a requirement under Standard AS/NZS 2455.1:2007 and carpet manufacturer's specifications.

Care

- Always leave the head sitting on a carpet surface. Do not leave the stretcher head sitting on concrete surfaces as the pins will get damaged. Before each use **always** check:
 - ☑ the pins for damaged or bent tips;
 - ☑ any scraps of carpet that are stuck in the pins;
 - ☑ any broken pins; and
 - ✓ the plate that sets the depth of how far the pins will go into the carpet. The plate should be correctly set for the carpet you are about to work with.
- Never use a stretcher head that is not correctly set or that has damaged pins. Doing so will result in the yarn being pulled or cause the head to skid across the face of the carpet damaging the pile. Damage to the face of a carpet is extremely difficult and in some cases impossible to repair.
- Do not use the stretcher tube to bridge a doorway and then stretch off. The tubes are very easily bent and once the pipes are bent they do not extend.
- Do not use the tubes for a weight when heat bonding joins. The moisture created with the heat will cause the tubes to rust and tubes may also cause the heat tape to belly in the shape of the tube.
- Keep power stretchers in ready-for-use order. There are many replacement parts for stretchers available at your suppliers.
- Keep tubes dry and stored in their case when not in use.
- Pack the stretcher correctly in its case to avoid damage to the case and its latches.
- Lightly lubricate any moving parts.



Description

A knee kicker has a small head with adjustable pins beneath. The neck is raised so your hand can securely grip the knee kicker when using it. On most models the neck is

adjustable for working in small areas, passages, robes, landings etc. The foot has a pad that protects the knee on impact.

Use

The knee kicker is an assist tool to be used with the power stretcher when stretching carpet. For example small confined spaces, aligning joins, tapping the stretcher head to adjust a width stretch or aligning the first stretch when first hooking onto a wall. The power stretcher should always be used as the main stretching tool. Over use of a knee kicker may cause long term damage to knees and hips.



When choosing a knee kicker, opt for the profile that matches the power stretcher so that it is possible to place the knee kicker over the tubes. This allows any kicking to be done without shifting the power stretcher or kicking while a stretch is being held by the power stretcher.

- Always leave the plastic head protector on the knee kicker when not in use. Do not leave the knee kicker sitting on concrete surfaces as the pins will get damaged.
 Before each use **always** check:
 - \square the pins for damaged or bent tips;
 - \square any scraps of carpet that are stuck in the pins;
 - ☑ any broken pins;
 - $\ensuremath{\boxtimes}$ any excess fluff trapped on the gripper inserts; and
 - ☑ the plate that sets the depth of how far the pins go into the carpet. The plate should be correctly set for the carpet you are about to work with.
- Never use a knee kicker that is not correctly set or that has damaged pins, or gripper inserts clogged with carpet fluff. Doing so will result in the yarn being pulled or cause the head to skid across the face of the carpet damaging the pile. Damage to the face of a carpet is extremely difficult and in some cases impossible to repair.
- Replacement Pads, Pin plates and Gripper inserts are available at suppliers.



Description

A frame with wheels attached.

Use

To transport heavy materials about a work site, to and from vehicles e.g. carpet, vinyl, drums of adhesive, bags of repair/levelling compounds etc.

Barrows should be used where and whenever possible to reduce the risk of back injury.

- Keep tyres pumped up.
- Lubricate any moving parts.

Fire extinguisher



As there are different sources of fires e.g. electrical equipment fires, flammable liquid fires etc. the method of extinguishing the class of fire also varies. For example powder extinguishers are marked by a white band around the cylinder and are the most widely used type of extinguisher. They discharge a fine powder that absorbs the fuel molecules, starving the fire of a fuel source.

Dry powder extinguishers are suitable for putting out fires whose source may be of paper, textiles, wood, most plastics, rubber, flammable liquids, combustible gases and electrical energised equipment. Because of the many fire sources they are categorised by a class. Dry class extinguishers are suitable for **Classes** A, B, C & E

The common classes of fires are:

- Class A carbonaceous solids, e.g. wood, paper and plastics.
- Class B flammable and combustible liquids.
- Class C flammable gases.
- Class D Combustible Metals.
- Class E fire involving energised electrical equipment.
- Class F fire involving cooking oils and fats.

Fire extinguisher types available to suit the class of fire are:

Extinguisher Type	Size	Suitability (Class)
Water	9lt	A
Foam	4.5lt & 9lt	A or B
Dry Chemical Powder	1kg to 9kg	A, B & E
Wet Chemical	3.5lt & 7lt	F & A
Carbon Dioxide	2kg to 5kg	B & E
Mobile	Various	Where substantial extinguishing agent is required

(Source: www.wormald.co.nz)

In comparison Carbon dioxide (CO2) extinguishers are marked by a black band around the top of the cylinder, and use the non-conductive and non-corrosive gas to reduce the amount of oxygen available to the fire. CO2 extinguishers are suitable for **Classes** B & E. (source: www.wormald.co.nz)

All fire extinguishers need Inspecting and testing in order to comply with AS/NZS **1850: 1997.** Familiarise yourself with the fire extinguishers in your work places (including

your vehicle) and the dates when they need servicing.

 $www.wormald.co.nz/_data/assets/pdf_file/0008/54854/Wormald_Portable_Fire_catalogue_NZ_Mar08_v2.$

Know your Extinguisher





Protecting People & Property. © 2021 FloorNZ - Resource book for Flooring Equipment

Vehicles



Vehicles are a very important part of a flooring professional's equipment.

☑ Keep vehicles clean and tidy

The vehicle may be seen by some customers as a first impression of what sort of job they will get. Keeping vehicles clean and tidy can help with a flooring company's "Professional image". By the time you get to the job the customer has already been into a show room or talked with professional salespeople who have already portrayed a professional image. This should be backed up by the installers when they arrive to a work site; in a clean and tidy work vehicle (along with professional "personal presentation").

Outside: Cleaning vehicles once a week helps them to look clean and tidy.

Inside: Whether you are in charge of a work vehicle or just use a work vehicle during the

day, show that you are responsible and considerate of others by removing rubbish e.g. soft drink bottles, coffee cups, food and any food wrapping etc. If this is not possible during the day, then remove all rubbish at the end of the day (not in the customer's house).





Loading vehicles

There are many different ways flooring trades people set up their vans. For example van set-ups may include shelving, bays, compartments, false floors etc. Whatever the set-up in your work van, everything loaded **must be tidily and securely stored**. In the event of an accident anything that is not secured in a work van can instantly turn into a missile that could cause injury or death.





A logical and tidy method for loading materials and equipment in a van along with making sure everything is securely fastened, saves time, money and promotes a professional image.

- Saves time with everything in its place you can often see if you have missed something out when loading the van and when you get to the job everything is easy to get at.
- Prevents damage trowels broken, damage to gauges on compressors, glue tipping over, vinyl getting scratched or marked etc.
- ✓ Saves wasting materials split bags of plastering compounds, damaged to rolls of tapes, damage to vinyl, squashed tubes of adhesive etc.
- Saves money everything spilt or damaged costs money in time and repairs or replacement.
- Professional image carrying out a flooring job whether polishing a floor, installing carpet/vinyl is very expensive for the customer. It is only human nature that customers want and expect "Bang for their Bucks". Arriving at a customer's house looking unorganised, cannot find what you are looking for, left something behind, the equipment is not working correctly, gear and materials spread all over the place does not portray a "Professional image".

How would your company like to be portrayed when you arrive at a customer's house?

Always put careful thought into loading a van. Think about the weight with heavy materials such as timber, machinery, full rolls of vinyl, carpet, levelling compounds etc. **Always keep the weight evenly spread .** Vehicles in wet conditions and open road driving become very dangerous and difficult to handle when the load is not evenly balanced.



There are many ways that equipment and materials can be loaded into a work van. The key is to have your equipment and material easy to get to when you arrive at the job. This will avoid wasting time by double handling and having materials and equipment spread everywhere.

For example a carpet installer will need tools, carpet gripper and underlay before the carpet. When loading materials/equipment in a van, think about how easy it will be to get out what you need first rather than having to empty everything out when you get to the job site.

When you are finished with gear and equipment that may also be used by others in your company e.g. compressors, grinders etc. store it back at the yard so it is free for anyone else at your workplace that may need it for their job the next day.

☑ Servicing

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Ask someone in your company if you are unsure of how to maintain work vehicles.

Check the service date – all vehicles need servicing. There will be a sticker at the top right of the driver's window when servicing is due. This will be shown by a date or on mileage travelled. Servicing involves changing oil fluids, filters, lubricating moving parts at a vehicle

involves changing oil, fluids, filters, lubricating moving parts etc. vehicles that are not regularly serviced run the risk of breaking down or the life and reliability of the engine will be shortened.

If you are driving a work van or are in charge of a van, take notice of the servicing date and notify the person in your company whose role it is to organise servicing for the vehicle.

Check the warrant date – all vehicles by law need a warrant of fitness. There is a sticker at the top right of the driver's window that will show where the warrant was last carried out and when the expiry date will be. A warrant of fitness (WOF) is issued by a certified company e.g. WOF station, service

station etc). Tyres, lights, indicators, suspension etc. are checked by a mechanic to see if they are safe and/or are in working order. If a vehicle does not pass a WOF, a form of what needs fixing will be given to the driver. These things must be fixed as soon as possible. A vehicle on the road without a current WOF is not only dangerous but the driver may be fined and any insurance for the vehicle may not be covered. If you are driving a work van or are in charge of a van, take notice of the WOF date and notify the person in your company whose role it is to organise a WOF for the vehicle.

Check the registration – all vehicles by law need to be registered.
 There is a clear plastic envelope on the bottom left of the passengers window that will show the vehicle model, registration

number and when the expiry date will be. A vehicle driving on the road without a current registration will incur a fine to the registered owner of the vehicle. Although the owner will receive a letter notifying of when the registration will expire for the vehicle take notice of the registration expiry date and that the registration sticker is not missing. Notify the person in your company whose role it is to organise the vehicle registration. Registration is purchased at a local post agency.

Next Service Due Mileage Or Date





 Check road mileage (diesel vehicles) – diesel vehicles are required by law to pay road tax. Next to the registration sticker on the bottom left of the passenger's window is the road mileage license

that will show the vehicle model, registration number and when the road mileage licence will expire. The driver of a diesel vehicle must always check the road mileage and make sure it is current. Driving over the mileage allowed will result in an expensive fine and there is a possibility the vehicle will be ordered off the road immediately. Notify the person in your company whose role it is to organise the road mileage in advance to give them time to buy road mileage. Road mileage can be purchased at a local post agency.



Road mileage for diesel vehicles

Registration

- ✓ Check oil when fuelling up always check the oil regularly. In older vehicles oil may need checking every time the vehicle is fuelled up. Commercial vans tend to be driven harder than private vehicles and carry heavier loads. Some motors will burn oil and some will burn very little between oil changes.
 - o Oil should always be checked before open road driving.
- Checking the oil immediately after switching off the motor will give a false reading. Oil is circulated all about a motor when it is running. When the motor is switched off a small amount of time is needed for the oil at the top of the motor to drain to the bottom. Diesel

Ask to be shown how to check the oil in your work vans.

- Check that the engine is Petrol or Diesel before fuelling up petrol and diesel engines are different in that combustion for a petrol engine relies on a spark plug to ignite the fuel, whereas diesel combusts on compression. Never put petrol in a diesel motor and diesel in a petrol motor. If this does happen, do not start the engine, and if it is too late turn off the engine immediately.
 - Talk to the service station attendant as they will have contact details with mobile companies that have the equipment to remove the fuel from the tank.
 - Avoid running too low on diesel or running out. If a diesel motor runs out of fuel the 0 fuel line will need to be bled of any air in the system before it will go again.







- Check water when cold regularly check the coolant. Never remove the radiator cap from a hot motor. Most modern vans have transparent plastic reservoir tanks that show the level of coolant.
- Check the tyres regularly check the tyre air pressure. There will be a recommended tyre pressure in the vehicle hand book or a sticker on the windscreen. Tyres with low air pressure use more fuel and may cause a vehicle to be unstable when on the open road with a heavy load.
 - o Over inflated tyres may where faster and are harder riding.
 - Tyres that are not the same in pressure can be very dangerous in wet conditions or at high speeds.

If you are aware of any problems with work vehicles, report them to the person responsible for the company vehicles.





Storing Flooring Equipment

- Machines and power tools should be stored in a ready-for-use condition along with any spanners/tools that are needed to use with them.
- Leads should be tidily coiled up or on a winder, hung up or laid flat where they will not get damaged or tangled.
- To prevent an accident or damage to machines or power tools, do not store anything that needs fixing. Place it in a separate area, tape a note to it and let someone know, so it can be fixed.
- When transporting, firmly strap or fix machines and power tools so that they will not move around during travelling.
- Never store a machine with the dust bag tied to it as it may catch on fire.
- Clean down machines before storing.
- Equipment and tool accessories also should be stored in a ready-for-use condition.
- Store staples in a dry case/box where they can be contained in a tidy order.
- Do not store loose magazines in tops of tool trays where they may break, rust or attract dust. Using staples that are kept this way may damage or jam the gun.
- Store drill bits in an orderly fashion so they are easy to get at, ideally store in a small sturdy case.
- Store saw blades in a dry place, keep them covered and in a way they are safe and easy to get at.
- When transporting rollers always make sure they cannot move about, cases with handles are available to store some rollers and transport on and off jobs.

Always wear your personal protection equipment as noise, wood and concrete dust can be hazardous to your health. Keep dust to a minimum; always empty vacuum bags and systems before they become overloaded.











