

Clamps: Safe Use and Selection

Safety Information

DANGER

Read these instructions before using any Bessey product. Failure to read and follow instructions and safety warnings can result in severe bodily harm or death.

Generally Applicable

- Use the product only in its original condition.
- Use the product only for its intended purpose. Improper use can cause personal injury or property damage.
- Wear safety goggles to protect your eyes.
- Wear protective gloves to protect your hands.
- Wear safety footwear to protect your feet.
- The handle must always be free of oil and grease to prevent slipping.
- Keep the product out of reach of children.
Small parts must not be swallowed or inserted into body openings.
- Check the product for damage before each use and make sure that all moving parts are working properly.
- A damaged product must not be used.
- Follow the care instructions for each product – see www.bessey.de.
- Use only original BESSEY spare parts.

Additionally for Clamping Tools

WARNING

Failure to follow instructions for proper and safe use of clamping tools can result in death or severe bodily injuries. Always follow these instructions before using any Bessey clamping tool. Only use clamping tool for its intended purpose.

- The clamping tool must not be used for lifting, pulling or leaning.
- The clamping tool must not be used to secure cargo during transportation.
- The clamping tool may only be tightened by hand without any additional aids such as mechanical or power tools or handle extensions.
- The clamping tool must not be used for permanent installation.
- Regularly check that the end stop is working properly when using clamps.

Additionally for Tools with Instruction Manual:

- Read and follow the instruction manual.
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General

1. **NOTICE:** BESSEY reserves the right to change the technical specifications of the products.
 2. **NOTICE:** Product specifications may vary from region to region to meet the needs of the international market.
 3. **WARNING:** The figures/photos of BESSEY tools in instruction manual demonstrate their specific use.
For the sake of simplicity and visual clarity, the use of protective clothing, such as gloves, has been partially omitted.
Always use appropriate personal protective gear such as gloves, eye protection, and respiratory protection. Avoid entanglement hazards such as loose fitting clothing, jewelry and unsecured long hair.
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Industrial Tool Safety and Clamp Selection

Employers are responsible for maintaining in good repair any tools and equipment supplied to workers. Workers must use tools and equipment properly and report any defects to supervisors. Tools and equipment should be inspected before each use. Use the guards and personal protective equipment which we all know are needed but sometimes tend to overlook. **WARNING: Never** disable any built-in safety features or guards on tools. Basic hazard awareness and common sense can prevent serious injuries with industrial hand and power tools.

Common Causes of Accidents:

Typical causes of hand and power tool accidents include the following:

- Using the wrong tool for the job
 - Tools falling from overhead
 - Sharp tools carried in pockets
 - Using cheating devices such as handle extensions on tool handles
 - Excessive vibration
 - Failure to support or clamp work in a stable and secure position
 - Carrying tools by hand while climbing or descending ladders
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Safe Practices for the Industrial Work Place

- **CAUTION: Use the right tool for the job.** Using a clamp to lift, using a cheater or extension bar on a handle or, using pliers instead of a proper wrench are typical examples of the mistakes which commonly lead to accidents and injuries.
- **CAUTION: Use tools only as recommended by the manufacturer.** For example, do not use cheaters (such as a handle extension) on handles. This will exert greater forces on the tool than it was designed for and is likely to cause breakage and possible injury.
- **CAUTION: Damaged or broken tools should be immediately removed from service.** Clamps with broken pads, bent handles, corroded pads, snips with notched blades, bent clamps, damaged spindles etc. are all unsafe and should be immediately removed from service and be either repaired or destroyed.

- **CAUTION: Maintain tools in safe operating condition.** Keep handles, pads and spindles clean, secure and safe. Do not use any kind of tape to secure split handles or to prevent handles from splitting. Check wedges and handles frequently. Keep handles smooth and free of rough or jagged surfaces. Immediately replace handles, spindles, blades and pads that are split, corroded, or that cannot be refitted securely.
 - **CAUTION: Never climb or descend ladders with tools in your hand.** Tool holders / pouches free your hands while climbing or working on ladders, scaffolding, and other areas where access may be difficult. When carrying tools up or down from elevated places, put them in appropriately sturdy bags or boxes and raise and lower them with strong ropes.
 - **Spark-resistant tools** (non-ferrous tools) are strongly recommended where flammable materials or explosive dusts or vapors might be present. These tools, such as brass or copper hammers or mallets, should still be used with caution. **WARNING:** Using spark-resistant tools does not guarantee safety in all explosive situations such as in the presence of gasoline vapors. It is always safer to eliminate the hazard by ensuring a safe atmosphere through isolation, ventilation, or purging.
 - **CAUTION: Protect the cutting edges of tools when carrying them.** Carry all tools in such a way that they will not be a hazard to yourself and others. Carry pointed or sharp-edged tools in pouches or holsters.
 - **Keep your hand tools clean.** Protect tools against damage caused by corrosion. Wipe off accumulated dirt and grease. Dip the tools occasionally in cleaning fluids or solvents and wipe them clean.
 - **Regularly lubricate** adjustable and other moving parts to prevent wear and misalignment.
 - **CAUTION: Stay aware of your surroundings** – always look around and keep a mental note of what is going on around you. Identify and be mindful of potential dangers.
 - **WARNING: Falling tools** are a dangerous hazard for workers below. Keep track of tools, especially when working at heights on scaffolds, lifts or other access equipment. Use safety netting or secure tools from falling where appropriate.
 - **CAUTION: Inspection and repair of industrial tools** – Tools should be inspected by a person qualified through training and experience to determine the safe condition of the tool. Worn or damaged tools should be tagged “*DEFECTIVE – DO NOT USE*” and returned to the shop for repair or replacement. Regular inspection of all tools is necessary and should include tool maintenance. Observing proper handling and storage of tools should also be a part of the inspection process. Responsibility for inspection is usually left to the supervisor; however, tools should be checked daily by those who use them daily. Hand tools that get the heaviest use and abuse should be inspected most frequently. Maintaining and repairing tools properly requires the right facilities and equipment. A stable workbench, repair tools, vises, and good lighting are necessities. Only persons skilled in the repair of tools should be allowed to do the repairs.
 - **CAUTION: Misuse** – Misuse of hand tools is the most common cause of injury in the work place. In many cases, the injury results because it is assumed that everyone knows how to use most common hand tools. This is not the case. It is the responsibility of the supervisor and employer to ensure that workers are trained in the safe and proper use of hand tools.
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Personal Protection

- **CAUTION: Hands** – Hands can be caught in machines, crushed by objects, or cut by sharp-edged tools such as chisels, knives, and saws. Hands can also be damaged by being burned, fractured, or sprained unless you stay alert. Always wear protective gloves appropriate to the job being done.
 - **CAUTION: Feet** – Always wear the appropriate protective footwear for the job (Steel toed, rubber, leather etc.)
 - **CAUTION: Eyes** – Eyes are highly susceptible to injury; however, most eye injuries are preventable. Always wear appropriate safety glasses / face shields for the job.
 - **CAUTION: Ears** – Hazardous noise levels are inherent in industry. Hearing protection should be worn whenever there is a risk of excessive exposure.
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Safe Use and Selection of Clamping Tools

Proper Selection

1. Always choose the style of clamp that best matches the requirements of the job at hand.
2. Choose a clamp size best suited to the job – too small a clamp may break, causing damage and/or personal injury.
3. Always select the proper clamps by determining the required opening, throat depth, clamping force and any physical characteristics such as overall size and weight.
4. When using “C” clamps, select a clamp that has a maximum capacity that closely matches (only slightly larger than) the overall thickness of the work.

Even the highest quality clamp, like any tool, can be damaged by rough handling, improper selection and overloading. Like with all other hand tools (pliers, hammers, wrenches etc.), a clamp’s design is the key determining factor of the type of work it is intended to safely perform.

Improper use of clamps may lead to personal injury or property damage!
BESSEY® Tools is not liable for damages or injuries caused by improper use of our products.

Safe and Proper Use

1. **CAUTION:** BESSEY® clamps are **NOT** certified lifting devices – Do not use for lifting, pulling or transporting. Clamps are temporary work holding devices.
2. Immediately discard any clamp that shows any signs of damage such as being bent, cracked, missing swivel pad etc.
3. Before using, make sure the swivel pad on the end of the screw turns freely.
4. **CAUTION:** Clamps should **only** be tightened manually, without the use of any auxiliary tools or cheater devices such as handle extensions (except those specifically designed for use with wrenches or power torque tools).

5. Overextending the screw can cause it to bend and the clamp to break free. Try to keep only 2 or 3 threads exposed to clamping forces. Make full use of sliding arm clamps before hand-tightening the screw portion of the clamp.
6. **Never** over-tighten a clamp. The purpose of a clamp is not to force two ill-fitting surfaces together, but to maintain uniform pressure between two well-machined pieces being joined together until the joining process (welding, gluing or some form of mechanical fastening) is completed.
7. **CAUTION:** Do **NOT** modify clamps in any way, including cutting, welding on extra pieces or, welding to an assembly. Any modification voids any warranty and absolves BESSEY® Tools of any and all liabilities.
8. BESSEY® Tools publishes nominal clamping force ratings for sliding arm clamps and nominal load limits for “C” clamps. These values only apply to the BESSEY® brand of clamps. Do **NOT** use as an indicator of clamping capacity of similar products from other manufacturers.
9. **Never** use clamps at the maximum nominal limits.
10. **Always** give yourself a margin of safety. If the job requirement is close to a clamps maximum rating, then add a second clamp or switch to a heavier duty clamp.