

## FACT SHEET

# TENONERS

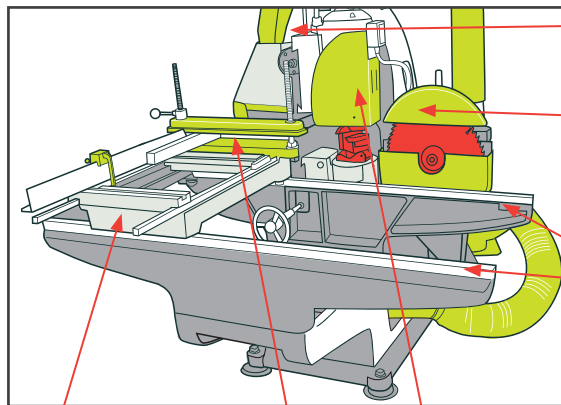
**A tenon is the end of timber shaped to fit in a mortise and make a joint.**

A traditional tenoner is a floor-mounted machine tool, with pairs of cutting heads to shape the tenon. The workpiece is securely clamped to a chassis on rails, and pushed by hand to carry the wood through the cutters.

Although guards leave cutters and the saw blade partially exposed, the operator's hands are firmly on the chassis on rails, avoiding contact with moving parts.

A more modern type of tenoner has a single cutting head that is programmed to follow a particular path to shape the tenon.

**FIGURE 1: TENONER**



**HAZARDS:**

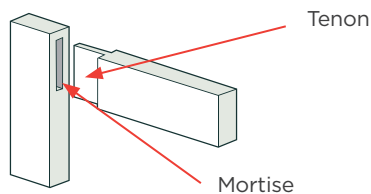
- > Entrapment from contact with clamp
- > Contact with blade
- > Moving/turning timber
- > Noise
- > Dust
- > Slips, trips and falls
- > Contact with exposed blades and moving parts (during maintenance, cleaning & repairs)

**PPE:**

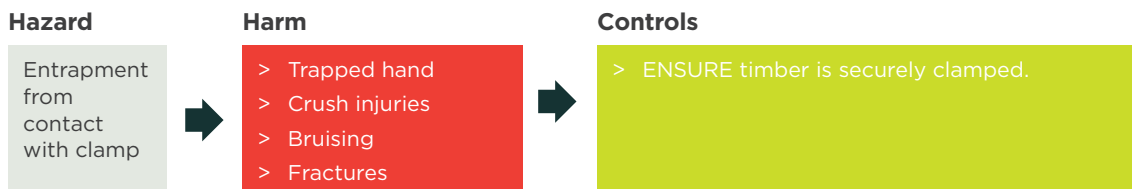


Chassis to which workpiece is clamped    Clamp    Guards over cutters

**FIGURE 2: HOW TENON FITS WITH MORTISE**



**TASK - SECURE THE WORKPIECE**



## TASK - PUSH TIMBER THROUGH CUTTERS

Hazard	Harm	Controls
Contact with blade	> Deep cuts or amputation	> SECURE guards over cutters and saw blade.
Contact, impact or entrapment from moving/turning timber	> Trapped hand > Bruising > Fractures	> USE the handles provided to control the timber.

Timber may turn or move during contact with cutters or saw blade. A modern machine should have self-adjusting guards that lift as timber approaches the cutters and saw blade.

## OTHER (NON-MECHANICAL) HAZARDS

Hazard	Harm	Controls
Noise	> Hearing damage or loss	> REDUCE noise levels by isolating machines or enclosing within noise barriers. > ASSESS noise levels. > ARRANGE hearing screenings. > ALWAYS WEAR hearing protection.

A safe noise level over an eight hour day is 85db. A tenoner may exceed this noise intensity.

Dust	> Eye irritation or damage > Breathing problems, lung damage or cancer > Worsening of existing health problems	> USE dust extraction equipment to minimise dust getting in the operator's breathing zone. > ALWAYS USE respiratory protection. > ALWAYS WEAR eye protection.
Slips, trips and falls	> Trapping > Cuts > Bruising	> KEEP up-to-date housekeeping procedures. > KEEP the area around tenoners clear of slip and trip hazards.

## TASK - MAINTENANCE, CLEANING & REPAIRS

Hazard	Harm	Controls
Contact with exposed blades	> Deep cuts or amputation	> LOCK-OUT all power supplies before maintenance, cleaning and repairs. > KEEP written safety procedures, and arrange regular inspections by a competent person.
Contact or impact from moving parts	> Bruising > Fractures	> REMOVE or LOCK-OUT machines that fail inspection, and DO NOT USE until repaired or replaced.

References, current standards and further information can be found on the Safe Use of Machinery project page at: [www.worksafe.govt.nz](http://www.worksafe.govt.nz)