

HAND TOOLS

THE CARE AND CORRECT USE OF MECHANICAL HANDTOOLS.

MARKING OUT

BEFORE MARKING OUT.

- USE AN ENGINEERS SQUARE TO FIND THE BEST DATUM EDGE.
- FILE THIS EDGE FLAT.
- FILE A SECOND EDGE SQUARE TO THE DATUM.
- REMOVE ALL BURRS & SHARP EDGES
- APPLY A THIN FILM OF MARKING OUT BLUE.

MARKING OUT EQUIPMENT

- STEEL RULES
- SCRIBERS
- MARKING OUT BLUE – *Not a Tool*
- CALIPERS (inside, outside, odd leg.)
- DIVIDERS
- COMBINATION SETS
- THE MARKING OUT TABLE
- HEIGHT GAUGE

MARKING OUT

TIPS FOR ACCURATE MARKING OUT.

- ALWAYS POINT THE SCRIBER TOWARDS THE SQUARE.
- ALWAYS CENTRE POP LIGHTLY FIRST, AND CHECK THE POP IS ACCURATE.
- ALWAYS CROSS HATCH THE WASTE SIDE OF THE LINE.

HACKSAWS

BLADE TYPES

- 14 TPI
 - 18 TPI
 - 24 TPI
 - 32 TPI
 -
- (TPI= TEETH PER INCH)
 - THERE SHOULD ALWAYS BE AT LEAST 2-3 TEETH IN CONTACT WITH THE WORK PIECE WHEN HACKSAWING.

HACKSAW HAZARDS

- ☐ **TEETH MISSING**
- ☐ **WRONG SIZE BLADES**
- ☐ **LOOSE BLADE**
- ☐ **SAWING ON THE WRONG SIDE OF THE VICE.**
- ☐ **NOT SLOWING AT THE END OF A CUT.**

HAMMERS

TYPES OF HAMMER.

- BALL PEIN
- CROSS PEIN
- STRAIGHT PEIN
- COPPER/HIDE Mallet
- PLASTIC Mallet

Hammer Types

- BALL PEIN



Hammer Types

- CROSS PEIN



Hammer Types

- STRAIGHT PEIN FINISHING HAMM



Hammer Types

- COPPER/HIDE MALLET



Hammer Types

- PLASTIC /NYLON MALLET



HAMMER HAZARDS

- ☐ DAMAGE TO HEADS
- ☐ DAMAGE TO HANDLES
- ☐ LOOSE OR MISSING WEDGES
- ☐ LOOSE HEAD
- ☐ STRIKING HAMMERS TOGETHER

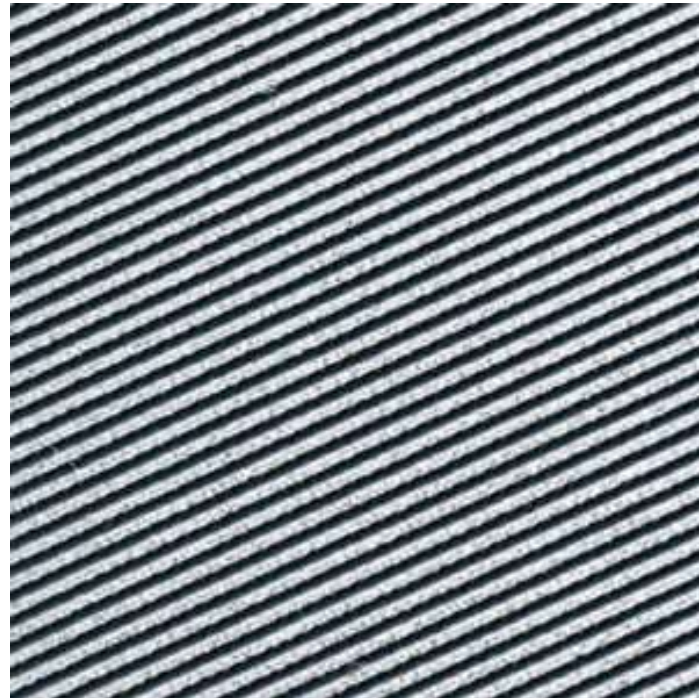
FILE CUTS

- ☐ SINGLE CUT
- ☐ DOUBLE CUT
- ☐ MILLENNIUM
- ☐ DREADNOUGHT



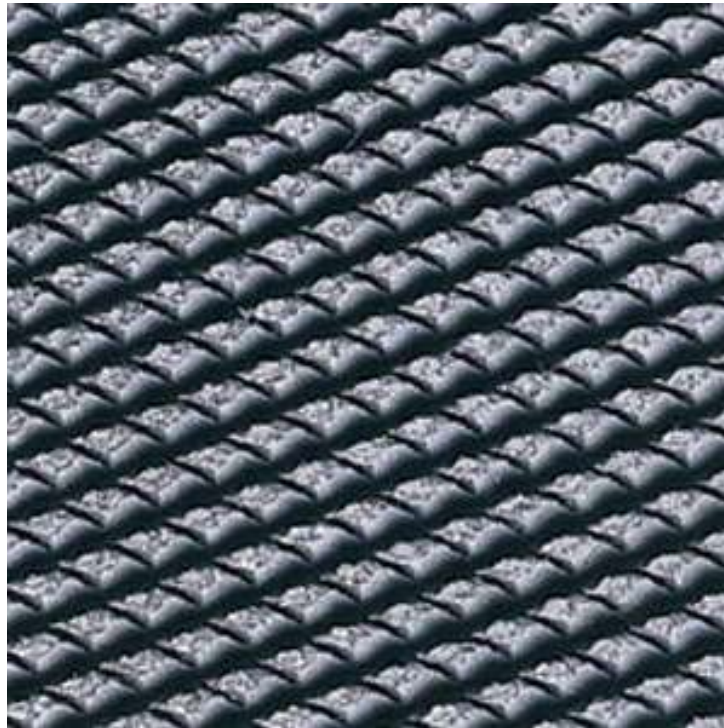
FILE TYPES

□ SINGLE CUT



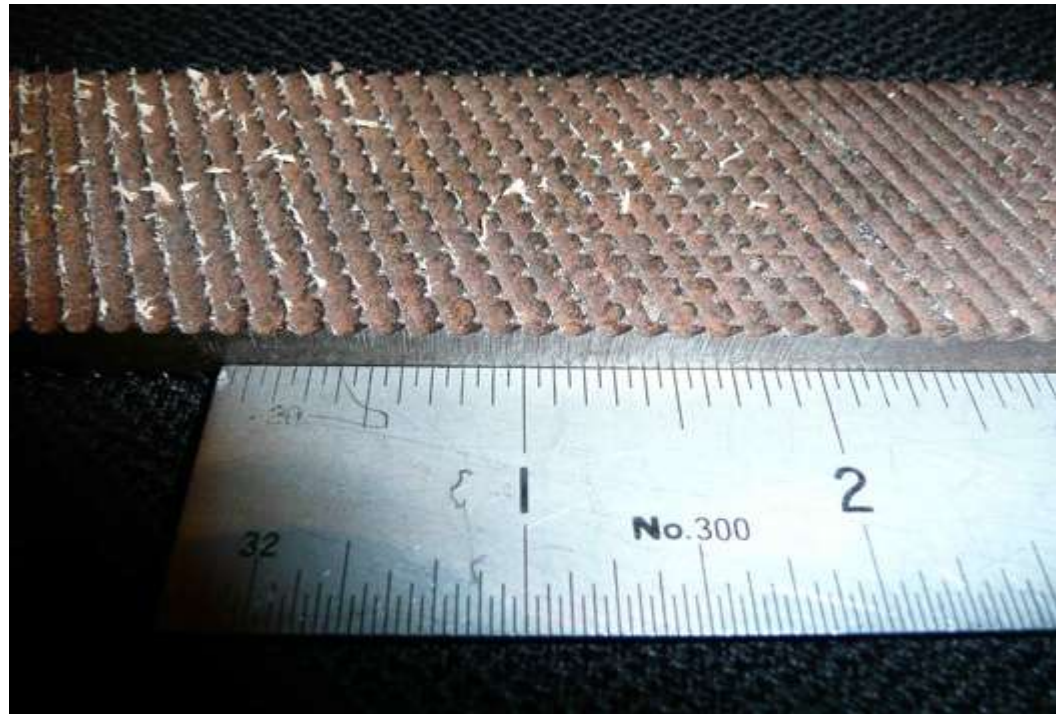
FILE TYPES

□ DOUBLE CUT



FILE TYPES

- **MILLENNIUM**



FILE TYPES

☐ DREADNOUGHT



FILES

GRADES

- SMOOTH
- SECOND
- BASTARD
- ROUGH

SHAPES

- FLAT
- P I L L A R
- W A R D
- H A N D
- R O U N D
- S Q U A R E
- 3 S Q U A R E

FILE HAZARDS

- ☐ SPLITS IN HANDLES
- ☐ LOOSE / MISSING HANDLES
- ☐ SHARP TEETH
- ☐ BRITTLENESS OF THE FILE

WHY IS THE TANG OF A FILE NOT HARDENED?

CHISELS

TYPES

- ☐ FLAT
- ☐ CROSS CUT
- ☐ DIAMOND POINT
- ☐ ROUND NOSE

HAZARDS

- ☐ BURRS ON HEAD
- ☐ DAMAGE TO CUTTING EDGE
- ☐ FLYING METAL

**ALWAYS WEAR
GOGGLES AND
INFORM OTHERS**