84.65 - Machine-tools (including machines for nailing, stapling, glueing or otherwise assembling) for working wood, cork, bone, hard rubber, hard plastics or similar hard materials.

8465.10 - Machines which can carry out different types of machining operations without tool change between such operations

8465.20 - Machining centres

- Other :

8465.91 - - Sawing machines

8465.92 - - Planing, milling or moulding (by cutting) machines

8465.93 - - Grinding, sanding or polishing machines

8465.94 - - Bending or assembling machines

8465.95 - - Drilling or morticing machines

8465.96 - - Splitting, slicing or paring machines

8465.99 - - Other

This heading covers machine-tools for the shaping or surface-working (including cutting, forming and assembling) of wood (and materials derived from wood), cork, bone, hardened rubber, hard plastics and similar hard materials (horn, corozo, mother of pearl, ivory, etc.).

The heading **excludes** machines for working materials which although referred to in the heading do not possess the characteristics of hard materials at the time work commences on them. For this reason, machines for cutting or slicing supple plastics or unhardened rubber are **excluded** (**heading 84.77**). Furthermore, the heading **does not cover** machines for making articles from granules or powder, such as machines for moulding plastic materials (**heading 84.77**), machines for agglomerating or moulding particles or fibres of wood or other ligneous matter (**heading 84.79**) or other similar machines. Although they might be considered to be for the treatment of the materials mentioned in the heading, the heading also **excludes**, in general, machines and apparatus whose function is not to work the material or its surface, e.g., those for the drying of wood or the ageing of it by desiccation (**heading 84.19**), machines for the expansion of cork (**heading 84.19**) or machines for compressing, agglomerating or impregnating wood (**heading 84.79**).

In general, machine-tools are power-driven but similar machines, worked by hand or pedal, are also covered by this heading. These latter types can be distinguished from the hand tools of **heading 82.05** and from the tools for working in the hand of **heading 84.67**, by the fact that they are usually designed to be mounted on the floor, on a bench, on a wall or on another machine, and are thus usually provided with a base plate, mounting frame, stand, etc.

(A) MACHINES NOT NORMALLY SPECIALISED FOR A PARTICULAR INDUSTRY

This group includes :

(1) **Sawing machines** of all types. They operate by means of blades or chains generally provided with teeth. They include :

(a) Sawing machines with reciprocating tools, e.g., log cross-cut sawing machines with right-toothed blades, fret saws and vertical or horizontal frame saws for cutting rough timber into planks.

(b) Sawing machines whose tool revolves. These include chain saws and band saws such as vertical and horizontal band saws, quartering and halving band saws, chariot or table band saws and various specialised machines such as multiple band saws for making blocks, strips, friezes, etc., for wood flooring and band saws for the paper industry.

(c) Sawing machines whose tool has a rotating motion. This large group includes all machines which cut by means of one or more toothed blades moving in a circular movement. It includes, for example, pendulum saws, cut-off saws with a straight line tool stroke, radial saws, block stroke saws with longitudinal cut, circular log-cutting saws, edging circular saws, bench saws, sliding table saws, circular panel-cutting saws.

(2) **Moulding and planing machines**, which prepare the surface of the workpiece using blades which remove chips of the material. These include machines which work on one or two surfaces and planing machines which can work on up to all four surfaces.

(3) **Machines for moulding and milling**, which shape the workpiece using profiled rotating tools which remove chips of the material. These include, for example, spindle moulding machines, single-end tenoning machines, dovetailing machines, grooving machines, countersinking machines, pattern milling and recessing machines, copying machines (other than lathes), 1, 2, 3 or 4-side moulding machines, profile forming machines, with rotating workpiece, slotting machines and log-milling machines (canters). This group also includes CNC milling machines.

(4) **Machining centres** (see Subheading Note 1 to this Chapter), also known as **CNC work centres**. These machines carry out several machining operations and have automatic tool change, from a magazine or the like in conformity with a machining programme. Consequently, this group covers machine-tools which carry out **two or more** machining operations by automatic tool change from a magazine or the like, whereas machine-tools which carry out **one** machining operation using a single tool or several tools working simultaneously or sequentially (for example, multiple-spindle drills or multiple-cutter milling machines) remain classified in their respective subheadings as drilling or milling machines.

(5) **Grinding, sanding and polishing machines**. Grinding machines which use grindstones are principally used for hard products such as corozo, hard rubber, horn and ivory.

Sanding machines use abrasives to improve the surface finish as well as the dimensional accuracy of the workpiece. This group includes those with an oscillating action, belt sanders, disc sanders, bobbin and drum sanders. Machines known as smoothing machines are also in this group.

Polishing machines impart a lustre, by means of bands, drums or flexible rollers, to a workpiece previously given a smooth finish.

(6) **Bending machines** which mechanically change the form or physical characteristics of the workpiece by action on its structure.

(7) **Assembling machines**.

These include :

(a) Machines which assemble two or more parts by means of binding agents, adhesives or gummed paper. This group includes veneer splicing machines, plank glueing machines, panel forming machines, frame clamps, carcase clamps, plywood and laminating wood presses, veneering presses. These machines may incorporate devices for spreading glue on the surface of the wood.

(b) Machines which join, using nails, staples, wire, etc.

(c) Machines for joining without binding agents or fasteners, e.g., squeeze presses.

(8) **Drilling machines**. These are used solely to drill a circular hole using a rotating tool (spindle or bit). The centre of the tool and of the hole to be drilled are along a common axis. This group includes single and multiple drilling spindle machines, knot hole drilling machines and dowel hole drilling machines. CNC drilling machines also belong to this group.

(9) **Morticing machines**. These cut non-cylindrical holes using a chisel, a mortice chain or routing bit, e.g., slot, chisel or chain morticing machines.

(10) **Splitting, stamping, fragmenting, paring and slicing machines**. All these machines transform a workpiece mechanically without removing chips of wood.

These include :

(a) Splitting machines which split the fibre bond by wedge action. These include log splitting machines, firewood splitting machines, root splitting machines and willow, bamboo and rattan splitting machines.

(b) Stamping machines which shape by impact cutting, e.g., veneer stamping machines.

(c) Fragmenting machines which produce small pieces of wood of similar size and shape. These include sliver cutting machines, particle producing machines, wood-wool making machines and chopping and chipping machines.

However, defibrators for producing wood pulp are **excluded** and fall in **heading 84.39**.

(d) Paring or slicing machines which use a straight cutting edge to produce thin sheets either by slicing (machines for making thin boards) or by paring (machines for producing veneers or thin sheets for plywood production).

This group also includes veneer shearing machines which use rectilinear blades, mitre trimming machines and mullion cutting machines.

(11) **Lathes**, which are used to fashion a workpiece by a motion about its own axis, the tool not turning. This group includes lathes of all kinds, including copying lathes.

(12) **Tree delimbing or bucking machines**.

(13) **Wood de-barking machinery** (log decorticators, post peeling machines, etc.), **other than** water-jet bark strippers of **heading 84.24** and barking drums of **heading 84.79**.

(14) **Knot-boring machines** for preparing logs (e.g., for use in making paper pulp).

The heading also includes machines which can carry out different types of machining operations without tool change between such operations.

Examples are :

(1) **Combined joinery machines** having in a single unit several machines with different functions, used independently of each other. With this type of machine it is necessary to give manual assistance to the workpiece between each operation. These include machines for surface planing combined with one or more other operations and sawing-moulding-morticing machines.

(2) **Multi-purpose machines** in which, unlike the previous group, no further manual assistance is required after the insertion of the workpiece. These include single-end tenoning machines with several spindles, double-end tenoning machines, machines for positioning hardware, dowel holes, etc., machines for assembling, using adhesives and finishing (for the production of veneer strips or making panels from laths).

(B) MACHINE-TOOLS SPECIALISED FOR A PARTICULAR INDUSTRY

This group includes :

(1) **Cooperage machinery** (e.g., stave-jointing, stave-planing, stave-bending, stave croze cutting or cask crozing machines; cask assembly machines; machines for driving the hoops over a cask). But the heading **excludes** cask or stave steaming apparatus (**heading 84.19**).

(2) **Machinery used in the pencil-making industry**.

(3) **Machines for the morticing or boring of railway sleepers**.

(4) **Wood-sculpturing machines, engraving machines, including copying machines**.

(5) **Wood flour grinding machines**. But the heading **excludes** defibrators used in the paper pulp industry (**heading 84.39**).

(6) **Machines for nailing, stapling, glueing or otherwise assembling boxes, crates, cases, casks, etc**.

(7) **Wooden button-making machines**.

(8) **Machines for making clogs, wooden soles or heels for shoes, or shoe-trees**.

(9) **Machinery for working osier, cane, etc.** (peeling, splitting, rounding, etc.), **other than** machines for the manufacture of basketwork or wickerwork (**heading 84.79**).

The heading includes **machine-tools used for working cork** (e.g., by sawing, cutting-out, cutting, polishing), **bone, hard rubber, hard plastics and similar hard materials**. These machines are, in general, designed on the same principles as machine-tools for wood-working.

PARTS AND ACCESSORIES

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts and accessories (**other than** the tools of **Chapter 82**) of the machine-tools of this heading are classified in **heading 84.66**.

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The heading also **excludes** :

(a) Bamboo crushers, wood chip cutting machines and log grinding machines used in pulp manufacture (**heading 84.39**).

(b) Machine-tools for working any material by removal of material, by laser or other light or photon beam, ultrasonic or plasma arc processes and other machines of **heading 84.56**.

(c) Tools for working in the hand, pneumatic, hydraulic or with self-contained electric or non-electric motor (**heading 84.67**).

(d) Deflash machines for cleaning and removing contaminants from the metal leads of semiconductor packages (**heading 84.86**).