

84.28

84.28 - Other lifting, handling, loading or unloading machinery (for example, lifts, escalators, conveyors, teleferics).

8428.10 - Lifts and skip hoists

8428.20 - Pneumatic elevators and conveyors

- Other continuous-action elevators and conveyors, for goods or materials :

8428.31 -- Specially designed for underground use

8428.32 -- Other, bucket type

8428.33 -- Other, belt type

8428.39 -- Other

8428.40 - Escalators and moving walkways

8428.60 - Teleferics, chair-lifts, ski-draglines; traction mechanisms for funiculars

8428.90 - Other machinery

With the **exception** of the lifting and handling machinery of **headings 84.25 to 84.27**, this heading covers a wide range of machinery for the mechanical handling of materials, goods, etc. (lifting, conveying, loading, unloading, etc.). They remain here even if specialised for a particular industry, for agriculture, metallurgy, etc. This heading is not limited to lifting or handling equipment for solid materials but also includes such machinery for liquids or gases. But the heading **excludes** liquid elevators of the type falling in **heading 84.13**, and floating docks, coffer-dams and similar marine lifting and re-floating appliances operating solely by hydrostatic buoyancy (**heading 89.05 or 89.07**).

The provisions of Explanatory Note to heading 84.26 apply, *mutatis mutandis*, to the equipment of this heading insofar as they concern self-propelled and other "mobile" machines, multi-function machines and lifting, loading, handling, etc., machines intended for incorporation in other machines or for mounting on transport vehicles or vessels of Section XVII.

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The heading covers lifting or handling machines usually based on pulley, winch or jacking systems, and often including large proportions of static structural steelwork, etc.

These static structural elements (e.g., pylons specialised for teleferics, etc.) are classified in this heading when they are presented as parts of a more or less complete handling machine.

When presented separately, they are classified in **heading 84.31** **provided** they are fitted or designed to be fitted with the mechanical features essential for the operation of the moving parts of the complete installation (wheels, rollers, pulleys, running or guide rails, etc.). Otherwise these structural elements are classified in **heading 73.08**.

These more complex machines include :

(I) INTERMITTENT ACTION MACHINES

- (A) **Lifts** are usually operated by winch and cable, or by rams worked by water, air or oil. They are used for raising or lowering a passenger cage or goods platform between vertical guide bars, and are generally fitted with counter-balance weights. The control, stopping, safety, etc., equipment, whether or not electrical, is also classified in this heading **provided** it is presented with the lift itself. The heading also includes manually operated lifts.

Rack and pinion driven lifts or hoists also belong to this category. These lifts and hoists consist of a lift cage, fitted with a motor that drives a pinion, and a mast, equipped with a toothed rack. When the pinion is engaged with the toothed rack, it permits the lift cage to move along the mast, up or down, at a controlled speed.

The group also includes so-called "ship-lifts", i.e., very powerful hydraulic or jack operated installations for lifting a vessel and lock basin complete from one canal level to another, and thus replacing normal locks.

- (B) **Skip hoists** are a type of lift in which bulk material containers are hoisted up a ramp or vertical shaft. They are used for raising coal from mines, for hoisting ores, limestone, fuel, etc., into blast furnaces, lime kilns, etc.

The heading also includes skips for such skip hoists, i.e., large capacity metallic containers or bins often fitted with automatically opening bottoms. Mining skips usually incorporate a cabin for the miners mounted above the load bin.

(C) Certain lifting machines :

- (1) **Lifting gins** consist of a winch mounted on a two-legged or tripod support.
- (2) **Well drilling derricks** for hoisting the drilling tubes, etc., in petroleum wells, etc. (**other than** those mounted on lorries, etc. - see the introduction to Explanatory Note to heading 84.26).
- (3) **Telphers** are similar in operation to overhead travelling or transporter cranes. The hoisting trolleys run (sometimes for considerable distances) on overhead rails supported on pylons.
- (D) **Teleferics** are large winch-operated installations generally for lifting passengers or goods in the mountains. They consist of the bearer and traction cables supported on pylons, and two cabins (or grabs, containers, etc.) which ascend and descend on the bearer cable.
- (E) **Funiculars** operate on the same principle as teleferics but the coaches run on rails. The heading in this case covers only the traction mechanism and winch; it **excludes** the coaches (**heading 86.05**) and the track (**heading 73.02 or 86.08** according to type).

- (F) **Wagon tippers** are platforms with guide rails or grooves, so that the wagon can be run into position, clamped and then emptied by tilting, tipping or rotating the whole machine by a jacking or other lifting system. The heading also includes **wagon shaking machines** used to facilitate the discharge of hopper type wagons.

(II) CONTINUOUS ACTION MACHINES

- (A) **Elevators** used for raising a constant stream of goods or persons vertically or obliquely. They consist essentially of a series of carriers of various types, attached at intervals to a jointed mechanism which turns as a continuous chain. They include bucket lifts for pulverised or granular materials, platform elevators for crates, parcels, etc., finger-tray elevators for sacks, barrels, bales of straw, sheaves, etc., and continuous multiple-cage lifts for passengers, etc.
- (B) **Escalators and moving walkways.**
- (C) **Conveyors** are used for moving goods, usually in a horizontal direction, sometimes over very long distances (in mines, quarries, etc.). They include :
- (1) **Conveyors operated by continuously-moving carrying or pushing elements**, e.g., bucket, tray or pan type conveyors; scraper or screw conveyors (in which the materials are forced along a trough by a push plate or worm respectively); band, belt, apron, slat, chain, etc., conveyors.
 - (2) **Conveyors consisting of a train of motor-driven rollers** (e.g., as used for feeding steel into cogging mills). The heading also covers roller conveyors, not power-driven, usually mounted on bearings (e.g., horizontal roller runways for manoeuvring crates, etc., and gravity roller conveyors), but it **excludes** similar equipment without rollers, e.g., straight, curved or spiral sliding chutes (**heading 73.08, 73.25 or 73.26** according to type).
 - (3) **Vibrator or shaker conveyors** operated by vibratory or reciprocating movements of the trough supporting the goods.
- (D) **Pneumatic elevators and conveyors** (e.g., pneumatic tube conveyors), in which small containers (for documents, small machined parts, etc.) or bulk materials (grain, straw, hay, sawdust, pulverised coal, etc.) are forced along a tube by an air current (including similar machines for transporting and cleaning grain).
- (E) **Roller supports ("castors")**, similar to roller conveyors, consist of a number of tubular posts fixed in the factory floor. The top of each post consists of a roller running on bearings and pivoting freely in all directions, so that the set of "castors" provides a roller table system (e.g., for handling sheet metal in rolling mills).
- (F) **Cable-operated hauling or towing machines** consist essentially of an endless cable or chain in continuous motion for hauling wagons (e.g., for colliery tubs and tip wagons), for towing barges, sledges, etc., for carrying passengers (ski-lifts), etc.

(III) OTHER SPECIAL LIFTING OR HANDLING MACHINERY

- (A) **Locomotive or wagon traversers** for transferring locomotives, trucks, etc., from one track to another.
- (B) **Wagon pushers of various kinds, e.g. :**
 - (1) Appliances fixed between the rails, consisting essentially of two reciprocating power-driven pistons which engage on the axles and thus push the trucks forward.
 - (2) Hydraulic ram or piston type machines for pushing mining trucks into the pithead cages, etc.
 - (3) Self-propelled one-wheel machines running on one rail of the permanent way. They have to be supported by a walking operator in the same way as wheelbarrows, and are powered by small petrol engines. It should, however, be noted that small tractors, also sometimes known as "wagon pushers" and used for that purpose, are **excluded** (heading 87.01).
- (C) **Mechanical loaders** for picking up coal, ores, excavated earth, pebbles, sand or other bulk materials. These machines are usually combined with a conveyor or an elevator (shaker type conveyor-loader, pick-up conveyor-loader, etc.).
- (D) **Auxiliary mechanical appliances for manipulating pneumatically, hydraulically or electrically operated hand tools** (drills, hammers, etc.). These appliances help to support the tool or push it forward into the work, e.g., pneumatically operated tool supports and pushers; drilling rigs and carriages ("Jumbos"); mechanical "balancers" for suspending tools during working. But the heading **excludes** simple static supports, etc.
- (E) **Industrial robots** specifically designed for lifting, handling, loading or unloading.
- (F) **Mechanical ladders** consisting of sliding sections operated by a mechanism (e.g., pulley tackle or winch).
- (G) **Mechanically adjustable wheeled platforms ("dollies")** for mounting and manipulating cinematographic cameras.
- (H) **Mechanical remote control manipulators**, for radioactive products, fixed or mobile, consisting of an arm outside the shielded cell, which is guided manually, and an arm inside the cell, which reproduces the operator's movements. Transmission of the movements is by means of mechanical, hydraulic or pneumatic appliances or by electric pulses.
Manipulators used independently in the hand (like a hand tool) fall in **heading 82.03, 82.04 or 82.05.**
- (I) **Platforms, whether or not self-propelled**, for the handling of containers or palettes used in airports for loading or unloading of aircraft. This equipment consists principally of an elevated platform supported by two diagonal cross-members. It is provided with a moving belt to transport the cargo. This equipment is not intended to transport containers or palettes, even over short distances, but is positioned empty beside the aircraft and operates only from that position.

- (K) **Palletisers**, electrically driven machines designed to align empty bottles automatically in regular rows (using powered or roller conveyors) and then to transfer them perfectly aligned onto a pallet for stacking layer upon layer. These palletisers, which do not fill, close, seal, label or band bottles, can stand alone or be incorporated in a processing line containing other machines which carry out such functions as filling or shrink-wrapping.
- (L) **Patient lifts**. These are devices with a supporting structure and a seat for the raising and lowering of seated persons, e.g., in a bathroom or onto a bed. The mobile seat is fixed to the supporting structure by means of ropes or chains.
- (M) **Stair lifts**. These are lifting devices, fitted with a load platform, which are fixed to banisters, stairway walls or the stairs and are used to move disabled persons or wheelchairs with their occupant up or down stairs.

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Lifting or handling devices are often used with furnaces, converters, rolling mills, etc., e.g., machines for inserting, handling or withdrawing the pieces being worked; for manipulating doors, covers, hearths, etc.; tipping or tilting machines. When these machines form independent units clearly distinct from the furnaces, etc., they are classified in this heading even if presented with the furnaces, etc. Examples include :

- (1) **Coke oven discharging machines** running to and fro behind the row of ovens, and equipped with a mechanical piston which opens the doors and empties the retorts.
- (2) **Ram or piston operated charging machines for Siemens Martin converters, etc.**
- (3) **Special lifting machines** for raising the covers of metallurgical annealing or "soaking" pits, or for lifting out the ingots.
- (4) **Ingot, forging, etc., manipulators, tilters, etc.**
- (5) **Machines** used in certain types of furnaces for inserting or removing, by the action of cylinders fitted with rams or pistons, the objects being treated in the furnace.

It should, however, be noted that the heading **excludes** lifting or handling machines designed to be incorporated in furnaces, converters, etc., or to form a complete unit therewith, **provided** they are presented with the furnaces, etc. (see **headings 84.17, 84.54, 84.55**, etc.). When presented separately they remain in this heading.

It should be noted that mechanical stokers, mechanical grates and similar appliances are also **excluded** (**heading 84.16**).

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the machines of this heading are classified in **heading 84.31**.

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The heading also **excludes** :

- (a) Liquid elevators of bucket, chain, screw, band or similar kinds (**heading 84.13**).
- (b) Machinery for sorting, screening, separating or washing earth, stone, ores or other mineral substances in solid form (**heading 84.74**).
- (c) Passenger boarding bridges (**heading 84.79**).
- (d) Machines and apparatus solely or principally of a kind used for lifting, handling, loading or unloading of boules, wafers, semiconductor devices, electronic integrated circuits or flat panel displays (**heading 84.86**).
- (e) Turntables of **heading 86.08**.
- (f) Dumpers (**heading 87.04**).