

**28 Tanning, hide treatment, leather working**


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**28a Chemical treatment and working of hides, skins and leather, including natural and artificial tanning materials and mixtures, impregnating and curing of leather**

**28b Mechanical treatment of hides, skins and leather in general; dyeing of hides and leather; making drive belts; fur shearing machines and dressing; tanning apparatus, mechanical section**

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**28a Chemical treatment and working of hides, skins and leather, including natural and artificial tanning materials and mixtures, impregnating and curing of leather**

**Preliminary treatment of hides for tanning**

28a-1 Curing, soaking, sweating, liming and depilating of raw hides (28b; 66a-7)

28a-2 De-liming, bating, cleaning, pickling and de-pickling as well as other preliminary treatment of hides for tanning

**Tanning of hides in general**

28a-3 Vegetable and mineral tanning, combination, alum and oil tanning

28a-4 Quick tanning, general, as well as under pressure and in vacuum

**Special tanning processes**

28a-5 Tanning with electricity

28a-6 Tanning with special chemicals, e.g. formaldehyde, sulfite cellulose liquor, also manufacture of artificial tanning mixtures, (manufacture of single chemical compounds with tanning characteristics 12o, 12p, 12q)

28a-7 Partial tanning, tanning of prepared hides

28a-8 Manufacture of special leather articles, such as industrial leathers, tyres, stuffing-box packings, leather belts, gut leather, tennis racket strings (leather substitute of animal hide, flesh and leather wastes without binder addition 39b-26/01)

**Dressing leather**

28a-9 Impregnating, oiling, hardening, preserving and degreasing of leather (22g-5; 23c-1; 28b-13)

28a-11 Pattern application by tanning (8m-10; 75b-11; 75b-19), artificial graining by special chemical pretreatment of leather by a tanning process (28b-18; 75c-5)

28a-12 Dressing of fur skins, chemical section; bleaching of furs

28a-13 Natural tanning agents, their chemical extraction and purification, recovery of tanning agents by the de-tanning of leather (de-tanning of leather as pretreatment of glue materials 22i-3)

**28b Mechanical treatment of hides, skins and leather in general; dyeing of hides and leather; making drive belts; fur shearing machines and dressing; tanning apparatus, mechanical section (chemical section 28a; saddlery 56a; manufacture of footwear 71c)**

**Machines for fleshing and depilating hides and skins**

28b-1/01 Machines for fleshing and depilating hides and skins in general (28a-1; 66a-7)

28b-1/02 Machines for fleshing and depilating with drum segment mounting

28b-1/03 Disk and band-knife fleshing machines

28b-2 Fleshing and depilating machines with holding drum, and with cylindrical or conical work tables

28b-3 Fleshing and depilating machines with horizontal tables, inclined tables or rows of tables

**Hide, skin and leather-scouring machines**

- 28b-4 Processes and machines for scouring, stretching and sammying of hides and leather in general
- 28b-5 Leather scouring machines with cylindrical work table
- 28b-6 Leather scouring machines with inclined tables or tables in rows
- 28b-7/01 Leather stretching frames, leather clamps
- 28b-7/02 Fur and hide stretchers

**Machines for setting out, paring, skiving and splitting hides, skins and leather**

- 28b-8 Machines for setting out of the leather grain (28b-4 – 28b-7)
- 28b-9 Leather paring and skiving machines
- 28b-10/01 Methods and machines for splitting hides and leather, including devices for embossing the measurements of measuring machines for hides, etc., in general (leather area measuring machines 42c-13)
- 28b-10/02 Band-knife splitting machines
- 28b-11/01 Machines and devices for cutting, stamping and perforating of leather and similar soft substances; clicking knives for leather, also for shoe soles and heel lifts (71c-31; 71c-32; 71c-27/00 – 71c-33/02) in general(28b-22)
- 28b-11/02 Revolution presses
- 28b-11/03 Preparation of work base blocks
- 28b-11/04 Punching tools
- 28b-11/05 Perforating tools
- 28b-11/06 Cutting and milling machines

**Rolling, hammering, softening, smoothing, grinding, ornamenting and rolling up of leather, hides and skins**

- 28b-12/01 Leather rollers as working machines, leather rolling units
- 28b-12/02 Leather hammers
- 28b-13 Leather suppling and softening apparatus, e.g. staking, fulling and graining machines (28a-9)
- 28b-14 Methods and devices for smoothing, pressing, smoothing and rubbing of leather, scudding; squeezing out, spreading out and smoothing of hides
- 28b-15 Leather grinding machines
- 28b-16 Graining, shagreening and brushing machines for leather
- 28b-17 Machines and devices for dyeing, oiling, bating, lacquering, filling, degreasing, impregnating and drying of hides, skins and leather (dyeing of leather, chemical section 8m-10; dressing, chemical section 28a-9 – 28a-12; free drying of hides, skins, and leather 82a)
- 28b-18 Machines and devices for producing designs on leather; butt rollers (28a-11; 28a-12; 75b-11; 75b-19; 75d-21)
- 28b-19 Machines for rolling up and packing leather

**Manufacture of leather belts**

- 28b-20 Methods and machines for making leather belts, e.g. drive belts, harness straps, belt laces, etc.; rounding of leather belts (structure of drive belts 47d-2; saddlery tools 56a-4)
- 28b-21 Stretching machines and frames for leather belts
- 28b-22/01 Cutting, perforating, punching and milling machines for leather belts and strips (28b-11)
- 28b-22/02 Spiral cutting machines
- 28b-23 Leather skiving and splitting machines with circular knives, bell knives
- 28b-24/01 Leather skiving and splitting machines with straight or curved knives (66b-15) and fixed, reciprocating or swinging splitting knife
- 28b-24/02 Leather skiving and splitting machines with disk knife or milling head
- 28b-24/03 Leather skiving and splitting machines with band knife

28b-24/04	Bevelling of belt ends
28b-25/01	Fur-shearing machines, depilating (3e-6, 3e-13/00), general
28b-25/02	Fur-plucking machines
28b-25/03	Furrier machines, fur dressing, drying of hides
28b-25/04	Making hide webs and strips
28b-25/05	Fur finishing (8b)
28b-25/06	Fur dyeing (chemical section 8m-10)
28b-26	Tanning, hide and leather working tools
28b-27/01	Rotary tanning drums and stretching frames for leather
28b-27/02	Tanning and liming pits
28b-27/03	Liquoring devices for tanning agents (28a-13)
28b-27/04	Gas release valves for tanning barrels
28b-27/05	Conveying devices
28b-27/06	Reversing gears for tanning barrels
28b-28/01	Pressing and shaping of leather (28b-11; working of leather edges: folding, overlapping, singeing, smoothing, polishing, dyeing 71c-15; 71c-7/00 – 71c-7/24)
28b-28/02	Knife and other working rollers as machine elements (28b-1 – 28b-6; 28b-8 – 28b-10)
28b-28/03	Workpiece abutments, abutment rollers, supports for hide and leather working machines (28b-1 – 28b-6; 28b-8 – 28b-10)
28b-28/04	Artificial leather and machines for its manufacture, disintegrating of leather pieces, also glue stock cutting machines (8h; 8i; 8n; 39a; 39b)
28b-28/05	Making surface patterns and plaits of leather
28b-28/06	Making special leather products, excluding 28b-28/04, 28b-28/05
28b-28/07	Repairing, patching leather pieces
28b-28/20	Miscellaneous devices and methods for the mechanical treatment of hides, skins and leather