

## ECLA EUROPEAN CLASSIFICATION

### B23H

**WORKING OF METAL BY THE ACTION OF A HIGH CONCENTRATION OF ELECTRIC CURRENT ON A WORKPIECE USING AN ELECTRODE WHICH TAKES THE PLACE OF A TOOL; SUCH WORKING COMBINED WITH OTHER FORMS OF WORKING OF METAL** (processes for the electrolytic or electrophoretic production of coatings, electroforming, or apparatus therefor [C25D](#); processes for the electrolytic removal of material from objects [C25F](#); manufacturing printed circuits using precipitation techniques to apply the conductive material to form the desired conductive pattern [H05K3/18](#))

#### **Note**

This subclass covers the working of metal described as "electroerosion"

### B23H1/00

**Electrical discharge machining, i.e. removing metal with a series of rapidly recurring electrical discharges between an electrode and a workpiece in the presence of a fluid dielectric**

#### B23H1/02

- . Electric circuits specially adapted therefor, e.g. power supply, control, preventing short circuits or other abnormal discharges

#### B23H1/02B

- . . [N: for shaping the discharge pulse train ([B23H1/02C](#) takes precedence)]

#### B23H1/02C

- . . [N: Detection of, and response to, abnormal gap conditions, e.g. short circuits (preventing short circuits or other abnormal discharges by altering machining parameters using adaptive control [B23H7/16](#))]

#### B23H1/02D

- . . [N: Power supply protection, e.g. detection of power switch breakdown]

#### B23H1/02E

- . . [N: for multiple gap machining]

#### B23H1/04

- . Electrodes specially adapted therefor or their manufacture ([B23H9/00](#) takes precedence)

#### B23H1/06

- . . Electrode material

#### B23H1/08

- . Working media

#### B23H1/10

- . Supply or regeneration of working media

### B23H3/00

**Electrochemical machining, i.e. removing metal by passing current between an electrode and a workpiece in the presence of an electrolyte**

#### B23H3/02

- . Electric circuits specially adapted therefor, e.g. power supply, control, preventing short circuits

#### B23H3/04

- . Electrodes specially adapted therefor or their manufacture ([B23H9/00](#) takes precedence)

#### B23H3/06

- . . Electrode material

#### B23H3/08

- . Working media

#### B23H3/10

- . Supply or regeneration of working media

- B23H5/00**                    **Combined machining**
- B23H5/02                    .    Electrical discharge machining combined with electrochemical machining
- B23H5/04                    .    Electrical discharge machining combined with mechanical working
- B23H5/06                    .    Electrochemical machining combined with mechanical working, e.g. grinding or honing
- B23H5/08                    .    .    Electrolytic grinding
- B23H5/10                    .    Electrodes specially adapted therefor or their manufacture ([B23H1/04](#), [B23H3/04](#) take precedence)
- B23H5/12                    .    Working media
- B23H5/14                    .    Supply or regeneration of working media
- B23H7/00**                    **Processes or apparatus applicable to both electrical discharge machining and electrochemical machining**
- B23H7/02                    .    Wire-cutting
- B23H7/04                    .    .    Apparatus for supplying current to working gap; Electric circuits specially adapted therefor
- B23H7/06                    .    .    Control of the travel curve of the relative movement between electrode and workpiece
- B23H7/06B                    .    .    .    [N: Electric circuits specially adapted therefor]
- B23H7/08                    .    .    Wire electrodes
- B23H7/10                    .    .    .    Supporting, winding or electrical connection of wire-electrode
- B23H7/10B                    .    .    .    .    [N: Supply of working media]
- B23H7/10C                    .    .    .    .    [N: Automatic wire threading] [N9702]
- B23H7/10D                    .    .    .    .    [N: Wire tension control] [N9702]
- B23H7/10E                    .    .    .    .    [N: Wire guides] [N9702]
- B23H7/10F                    .    .    .    .    [N: Current pickups] [N9702]
- B23H7/10G                    .    .    .    .    [N: Used wire disposal devices] [N9702]
- B23H7/12                    .    Rotating-disc electrodes
- B23H7/14                    .    Electric circuits specially adapted therefor, e.g. power supply [N: ([B23H3/02](#) takes precedence)]
- B23H7/16                    .    .    for preventing short circuits or other abnormal discharges [N: by altering machining parameters using adaptive control]
- B23H7/18                    .    .    for maintaining or controlling the desired spacing between electrode and workpiece
- B23H7/20                    .    .    for programme-control, e.g. adaptive ([programme-control systems in general G05B19/00](#))
- B23H7/22                    .    Electrodes specially adapted therefor or their manufacture ([B23H7/08](#), [B23H7/12](#), [B23H9/00](#) take precedence)
- B23H7/24                    .    .    Electrode material

- B23H7/26 . Apparatus for moving or positioning electrode relatively to workpiece; Mounting of electrode
- B23H7/26B . . [N: Mounting of one or more thin electrodes]
- B23H7/28 . . Moving electrode in a plane normal to the feed direction, e.g. orbiting
- B23H7/30 . . Moving electrode in the feed direction ([B23H7/32](#) takes precedence)
- B23H7/32 . . Maintaining desired spacing between electrode and workpiece [N: e.g. by means of particulate material]
- B23H7/34 . Working media
- B23H7/36 . Supply or regeneration of working media
- B23H7/38 . Influencing metal working by using specially adapted means not directly involved in the removal of metal, e.g. ultrasonic waves, magnetic fields or laser irradiation
- B23H9/00** **Machining specially adapted for treating particular metal objects or for obtaining special effects or results on metal objects** ([heat treatment by cathodic discharge C21D1/38](#))
- B23H9/00B . [N: Disintegrating]
- B23H9/00C . [N: Making screw-threads or gears]
- B23H9/00D . [N: Machining elongated bodies, e.g. rods]
- B23H9/00E . [N: Cavity sinking ([B23H9/14](#) takes precedence)]
- B23H9/00F . [N: Surface roughening or texturing]
- B23H9/02 . Trimming or deburring [N: ([B23H9/00C](#) takes precedence)]
- B23H9/04 . Treating surfaces of rolls
- B23H9/06 . Marking or engraving
- B23H9/08 . Sharpening
- B23H9/10 . Working turbine blades or nozzles
- B23H9/12 . Forming parts of complementary shape, e.g. punch-and-die
- B23H9/14 . Making holes
- B23H9/16 . . using an electrolytic jet
- B23H9/18 . Producing external conical surfaces or spikes ([B23H9/08](#) takes precedence)
- B23H11/00** **Auxiliary apparatus or details, not otherwise provided for**
- B23H11/00B . [N: Mounting of workpieces, e.g. working-tables]

B23H11/00C

- [N: Electrical contacts or wires ([B23H7/10](#) takes precedence)]