Title (en)

Device for hardening rails

Title (de)

Einrichtung zum Härten von Schienen

Title (fr)

Dispositif de durcissement de rails

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Application

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Priority

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Abstract (en)

The device for hardening profiled running rails (1), comprises a cooling means, a transverse displacement means (21) in an area of roller tables, a directing means and a manipulation gripper (3) for bringing the rail in the device, a positioning means (4), a basin and/or a trough with a cooling agent, and a cooling bed (6). The running rails have optional different cross-sectional forms and a length of larger than 50 m by cooling a part of the respective rail cross section over a total rail length in the cooling means. The manipulation gripper is formed from operatable pliers. The device for hardening profiled running rails (1), comprises a cooling means, a transverse displacement means (21) in an area of roller tables, a directing means and a manipulation gripper (3) for introducing the rail in the device, a positioning means (4), a basin and/or a trough with a cooling agent, and a cooling bed (6). The running rails have optional different cross-sectional forms and a length of larger than 50 m by cooling a part of the respective rail cross section over a total rail length in the cooling means. The manipulation gripper is formed from identically-shaped, aligned and movably operatable pliers, which have homogenously movable and/or adjustable gripping arms formed with centering parts for an axial alignment of the heads of the rails and with gripper parts for a transversely-aligned holding of rail foots, so that an accurate introduction of the rails is possible in the positioning means and a regulation of the rails is possible in the positioning means. The manipulation gripper is formed with more than two pliers, each of which is 10 m of the basin length. The manipulation gripper and associated bringing means are spatially movable with more than the largest rail height over the roller table and the gripping arms of the pliers are partially lowered between the rollers of the roller tables for receiving the rails in a vertical manner. The positioning means has horizontally aligned retaining components with units for the foot of hangingly introduced rails, which is definable on the units by detachable clamping elements and/or compressor rods distortion-secured in the direction of the rail. The rail is immovably kept by one unit and one detachable clamping element for the rail foot of a component of the positioning means. The remaining units and the clamping elements allow a displacement in the longitudinal direction of the rail. Two basins are horizontally arranged next to each other with positioning means on equal height in an axial-parallel manner. The part of the cooling agent in the basin usable for hardening the rails has a depth, which exceeds 10% the height of the largest rail profile. The basin has a cooling agent inlet on the bottom-side having 1.5 m of the basin length. A regular cooling agent flow is supplyable through the cooling agent inlet. A perforated and flow-throughable plate distanced above the cooling agent inlet is arranged in the basin and/or a nozzle plate assigned in the flow direction of the cooling agent is inserted with channels. A deriving means for the cooling agent is arranged in the basin and/or in supply lines and is openly-adjustable for temporarily emptying the basin. The basin, the units and clamping elements are simultaneously movable in the cooling agent vertically relative to each other in a controlled manner. A vertical holding position and a time period of the basin, the units and clamping elements are adjustable. The units and clamping elements are simultaneously adjustable horizontally transverse to the basin.

Abstract (de)

Die Erfindung betrifft eine Einrichtung zum Härten von Schienen (1), insbesondere profilierte Fahrschienen, mit gegebenenfalls jeweils unterschiedlicher Querschnittsform und einer Länge von größer als 50m durch Abkühlen von zumindest einem Teil des jeweiligen Schienenquerschnittes über die gesamte Schienenlänge in einem Kühlmittel, bestehend aus Querverschiebemitteln (21) im Bereich eines Rollganges (2), aus Richtmitteln und Manipulationsgreifer (3) zum Verbringen der Schiene (1) in der Einrichtung, mindestens einem Positioniermittel (4), mit jeweils einem Becken (5) bzw. Trog mit Kühlmittel sowie einem Kühlbett (6). Erfindungsgemäß ist vorgesehen, dass das Becken (5) und die Anlagen und die lösbaren Spannmittel für den Fuß der hängenden Schiene aller Komponenten des Positioniermittels (4) zur Einbringung der Schiene in das Kühlmittel gleichzeitig vertikal relativ zueinander gesteuert bewegbar und eine jeweilige vertikale Halteposition und Zeitdauer derselben einstellbar sind.

IPC 8 full level

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CPC (source: EP KR US)

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Citation (applicant)

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Citation (search report)

- [XAY] EP 1160341 A2 20011205 - VOEST ALPINE SCHIENEN GMBH & C [AT]
- [YDA] AT 410549 B 20030526 - VOEST ALPINE SCHIENEN GMBH & C [AT]
- [A] EP 0441766 A1 19910814 - VOEST ALPINE IND ANLAGEN [AT]

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