

egy and will contribute to the profitability and growth of the company regionally and internationally," he said.

Garmco is a global exporter of flat rolled aluminium products with a network of subsidiaries and associates companies. Today, the group employs over 830 worldwide (660 in Bahrain and 170 overseas), and has an annual turnover of more than USD450m.

**Seco/Warwick supplies continuous homogenizing line to Rusal Krasnoyarsk**

Seco/Warwick Europe from Poland signed a contract with Rusal Krasnoyarsk in May for the delivery, installation, and commissioning of a billet continuous homogenizing line. The line includes: a continuous homogenizing furnace with a walking beam conveyor system, a turbo air cooler, water tank, control system and related equipment, i.e. ultrasonic station, saw stations, stacking, strapping and wrapping system for horizontal and vertical packages of the logs. The furnace allows processing logs with diameters varying from 8 to 18 inch without having to change its performance parameters.

Thanks to its multi-zone design, vertical

airflow furnace technology is inherently flexible. Owing to the unique design the furnace can process batches of different alloys and diameters without necessity to empty the heating zones. The system is completely automated and ensures better energy efficiency. In a typical production solution, the whole line ends with a device which cuts the logs to the required length and with a unit for packing prior dispatch. The completion of the project is scheduled for January 2017.

**Butt handling system for Alba**

VHE has been awarded a contract by Aluminium Bahrain (Alba) for the design, manufacture, supply and installation of a butt handling system in Rodding Plant No. 1. The project scope includes an anode butt stripper, an SMV butt crusher and an interconnecting steel apron conveyor. An auxiliary vibrating feeder permits the addition of scrap full-size and part anodes to the apron conveyor. Also included is the rebuild of a 50-metre rubber trough conveyor feeding the crusher discharge to an existing 100 tonne silo; and the revamp of the dust collection system and the renewal of the fume extraction ductwork. Additional

work includes new electrical and automation systems, and new hydraulic power packs. Completion is scheduled for mid-year 2016.

**Off-specification anode butt handling facility for Qatalum**

VHE was awarded a contract by Qatalum in April 2014 to design and construct a building and facilities for handling off-specification butts in the anode service plant. VHE successfully completed the project work in March 2015.

The project scope included a 200 m<sup>2</sup> reinforced concrete building with steel-trussed roof, the supply and installation of a hydraulically operated anode stripper, and a dust collection system and bag filters. In this facility, scrap baked anodes are collected from all stages of production using forklift trucks. These may be from the baking kilns, rejected castings, and damaged anodes prior to installing rodDED anodes in pots. A hydraulic stripper removes anode blocks from rods. A pay loader moves anodes and fragments to a tumbler (Qatalum supply) which breaks the scrap anodes into smaller pieces; the product is then fed to the green mill for processing. ■

**Patentblatt April 2015**

*Fortsetzung aus ALUMINIUM 6/2015*

**Verfahren zum Herstellen eines Bleches mit beöilten Zn-Al-Mg-Beschichtungen und entsprechendes Blech.** Arcelormittal Investigación y Desarrollo SL, 48910 Sestao Bizkaia, ES. (C23C 2/06, EPA 2841615, WO 2013/160871, EP-AT: 25.04.2013, WO-AT: 25.04.2013)

**Bogenförmig abgelagerte Al-Cr-O-Beschichtungen mit verbesserten Beschichtungseigenschaften.** Oerlikon Trading AG, Trübbach, 9477 Trübbach, CH. (C23C 14/08, EPA 2841618, WO 2013/159893, EP-AT: 22.04.2013, WO-AT: 22.04.2013)

**Aluminium-Elektrolyt-Kondensator und Gummichtung dafür.** Elna Co., Ltd., Kanagawa 222-0033, JP. (H01G 9/008, EPA 2843672, WO 2013/160964, EP-AT: 27.04.2012, WO-AT: 27.04.2012)

**Zusammengesetzter Aluminium-Extrusionswärmeableiter.** Delta Electronics, Inc., Taoyuan County 32063, TW. (H01L 23/367, EPA 2843 699, EP-AT: 18.12.2013, WO-AT: 18.12.2013)

**Al-Cu-Li-Legierung mit verbesserter Schlagzähigkeit.** Constellium France, 75008 Paris, FR. (C22C 21/12, EPA 2836620, WO 2013/153292, EP-AT: 10.04.2013, WO-AT: 10.04.2013)

**Opferaluminiumrippen für den Ausfallmodus-schutz eines Aluminium-Wärmetauschers.** Carrier Corp., Farmington, CT 06034, US. (F28F 19/06, EPA 2836783, WO 2013/155355, EP-AT: 11.04.2013, WO-AT: 11.04.2013)

**Verbesserte, gegen das Eindringen von geschmolzenem Aluminium beständige Blasenpumpe.** Arcelormittal Investigación y Desarrollo S.L., 48910 Sestao Biskaia, ES; Lee, Yong M, Munster, Indiana 46321, US; Costino, James M, Munster, Indiana 46321, US; Komarovskiy, Igor, Schererville, Indiana 46375, US; Cap, Jerome S., Calumet City, Illinois 60409, US; Shastry C., Ramadeva, Crown Point, Indiana 46307, US. (C22B 9/05, EPA 2836619, WO 2013/155497, EP-AT: 12.04.2013, WO-AT: 12.04.2013)

**Al-Cu-Gusslegierung.** Aeromet International PLC, London, Greater London EC4A 1BD, GB. (C22C 1/10, EPA 2837702, EP-AT: 10.02.2011, WO-AT: 10.02.2011)

**Schichtwärmeübertrager, Anordnung zur Bereitstellung von elektrischer Energie und Verwendung einer Eisen-Chrom-Aluminium-Legierung.** Mahle International GmbH, 70376 Stuttgart, DE. (F28F 21/08, OS 10 2010 002 864, AT: 15.03.2010)

**Aluminiumlegierung.** Novelis, Inc., Atlanta, GA 30326, US. (C22C 21/02, EPA 2837704, EP-AT: 11.11.2011, WO-AT: 11.11.2011)

**Verfahren und Presswerkzeug zur Herstellung von Karosseriebauteilen aus Aluminium sowie Karosseriebauteil.** Benteler Automobiltechnik GmbH, 33102 Paderborn, DE. (B21D 53/88, PS 10 2013 002 121, AT: 08.02.2013)

**Verfahren zur Verheilung der Passivschicht eines Bauteils aus Aluminium zur Wiedererlangung der Gasdichtheit.** Brockmann, Robert, 17489 Greifswald, DE. (C23C 8/06, OS 10 2013 017 888, AT: 28.10.2013)

**Gleitlagerverbundwerkstoff mit Aluminium-Zwischenschicht.** Federal-Mogul Wiesbaden GmbH, 65201 Wiesbaden, DE. (F16C 33/12, PS 10 2013 210 663, AT: 07.06.2013)

**Wärmeübertrager aus Aluminium und Verfahren zur Erzeugung einer Oberflächenbeschichtung auf einem Wärmeübertrager aus Aluminium.** Mahle International GmbH, 70376 Stuttgart, DE. (B05D 7/16, OS 10 2013 215 386, AT: 05.08.2013)

**Aluminium-Warmbandwalzstraße und Verfahren zum Warmwalzen eines Aluminium-Warmbandes.** SMS Siemag Aktiengesellschaft, 40237 Düsseldorf, DE. (B21B 3/00, OS 10 2013 221 710, AT: 25.10.2013)

**Dekoratives Bauteil.** WKW Erbslöh Automotive GmbH, 42349 Wuppertal, DE. (B60R 13/04, GM 20 2007 002 233, AT: 12.02.2007)