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DEVELOPMENT OF PILOT BATCH AND GRADE ESTIMATION OF COILS OF STEEL GRADE S355MC AT ROLLING MILL "1700", PJSC "ILYICH IRON AND STEEL WORKS"

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Purpose. Development of technology of hot rolling coils using thermo-mechanical controlled process for the wide-strip rolling mill and grade estimation of coils.

Methodology. Technology was developed and the first batch was produced using thermo-mechanical controlled process and improvement in surface quality was achieved via air cooling to a certain temperature.

Findings. There has been developed technology, and pilot batch of hot rolling coils (6×1500 mm, steel grade S355MC) has been produced using thermo-mechanical controlled process (TMCP) for the wide-strip rolling mill 1700. The integrated technology for TMCP coil production (steel grade S355MC) has been firstly developed for the rolling mill 1700 in accordance with EN 10149-2. Air cooling for coils to 450°C after coiling has been firstly used in the developed technology, which provides for decrease in air scale and improvement of surface quality for the customers.

Keywords: thermo-mechanical controlled process, hot rolling coils, rolling force, temperature conditions, technology

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BASIS OF DYNAMICAL LOADS TOWARD BAND LOOP FRAME FOR ARTICULATED CONTAINER TRUCK ON PNEUMATIC WHEELS AMONG DISTURBANCE MOTION

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Purpose. Justification of dynamic loads on a bearing system for articulated container truck on pneumatic wheels in disturbance motion.

Methodology. The study was carried out by using the methods of analytical mechanics with Lagrange's equation of second type.

Findings. Mathematical model of disturbance motion for articulated container truck on pneumatic wheels has been worked out by analytical mechanics method with Lagrange equation of second type. Natural dynamical characteristic, critical speed of motion, dynamic coefficient have been received, that has secured accuracy of force calculation, rational metal capacity of constructions.

Keywords: articulated dynamical loads, articulated container truck, mathematical model, band loop frame, analytical mechanics

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