

The joint research project proposed by Aeralia, CENIM, Corus NL, CRM and TKS couples complementary approaches to optimise the processing route of galvanised and galvanealed steel sheets. The project is divided into four parts, each considering an aspect of the influence of strip surface texture and microstructure in hot dip galvanising.

- Texture and microstructure effects: influence of dew point and steel grades. IF and ELC steel grades are characterised with complementary techniques in all the laboratories to gain a general knowledge of surface microstructure, pancake grains, and surface texture and their influence on intermetallic formation.
- Galvanealed coating: adhesion and streaky defects. Mechanisms of formation of streaky lines on galvanealed coating are investigated at each production step. More general considerations on adhesion of galvanealed coating are derived from this phenomenon.
- Wettability of high-strength steel. Industrial and laboratory-produced high-strength steels (0.06 % C, 1.5 % Mn, 0.38 % Si) are compared in terms of wettability and surface chemistry.
- Minispangle on Aluzinc coating. Mechanisms and remedies for the minispangle phenomenon are given. Increasing the spangle size through the control of the annealing dew point has been tested with success during industrial trials.

Price (excluding VAT) in Luxembourg: EUR 23.50

ISBN 92-894-4388-X



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Surface characteristics

Influence of strip surface texture and microstructure in hot dip galvanising

Report

EUR 20502 EN



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