

浮法玻璃提升辊耐蚀涂层

Anti-corrosion coating on lift-out rollers for float glass line

简介 在浮法玻璃生产线上的提升辊、输送辊与通过锡浴的玻璃板接触，其辊面附着熔融锡。由于熔融锡具有极强的腐蚀性，使提升辊、输送辊面很快变得粗糙及凹凸不平，并复印到玻璃板的下面，而且腐蚀反应的生成物会污染玻璃板，造成玻璃质量和生产成品率下降。

Introduction Lift-out roll contacts with the glass ribbon immediately after being taken out from the tin bath to support and transfer the glass ribbon to the annealing Lehr. Corrosive tin drops easily adhere to the rolls. The surface of the lift-out roll is corroded by tin and SO₂ to form a rough surface. Accordingly, the uneven pattern of the roll surface is transferred onto the surface of the glass ribbon to cause a defect by the formation of uneven or rough surface. This causes a deterioration of quality of the product and an increase of defective products.

技术方案 广州有色金属研究院采用热喷涂的方法在提升辊、输送辊表面喷涂一层陶瓷，提高提升辊、输送辊对熔融锡的耐腐蚀能力，抑制辊面熔融锡的附着，减缓熔融锡对辊面的侵蚀，使辊面长时间保持光滑，减少提升辊、输送辊的维修保养，提高玻璃质量和生产成品率，降低生产成本。

Solution Guangzhou Research Institute of Nonferrous Metals has successfully sprayed ceramic coating on the lift-out roll which has excellent corrosion resistance to the molten tin and SO₂. The ceramic coating ensures a better non-wettability and corrosion resistance to molten tin and keeps the lift-out surface in good state for a longer time. As the result, maintenance of the lift-out roll is reduced, float glass quality is improved and production cost is decreased.

性能指标

- ◆ 喷涂材料：氧化物陶瓷；
- ◆ 喷涂工艺：高能等离子喷涂；
- ◆ 涂层硬度：硬度 HR_{15N}88-90 左右；
- ◆ 涂层结合强度：40N/mm² 左右；
- ◆ 涂层厚度：0.3mm 以上；

Coating properties

- ◆ Coating: oxide ceramic;
- ◆ Coating process: High power plasma spray
- ◆ Coating hardness: HR_{15N} 88-90;
- ◆ Coating bonding strength: 40N/mm²;
- ◆ Coating thickness: above 0.3mm

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技术特点

涂层材料具有极强的抗（熔融锡的）腐蚀性、抗附着性；
涂层材料高温硬度高、耐磨损、使用寿命长；
减少停炉的时间，降低生产成本；
具有优异的重复制作性。

Features

- ◆ Excellent non-wettability and corrosion resistance to molten tin;
- ◆ Hard in high temperature, excellent resistance to abrasion, long life;
- ◆ Reduction in time of maintenance and cost;
- ◆ Process reproducible, re-coating capable



高能等离子喷涂系统(德国产)

High power plasma spray system from Germany



浮法玻璃生产线上的提升辊（使用后 1 年后）
Lift-out rolls for float glass line (after one year service)

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