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**INNOVATIONS
AND TRENDS**



Low Carbon and Low Carbon Vanadium (LCV) grooved rails: the best options for city transport



Low Carbon Vanadium Grooved Rails

Use of Low Carbon and Low Carbon Vanadium (LCV) rails, with the addition of very small amounts of Vanadium provides an increased grain refinement throughout the entire rail and not just the outer surface (as rolled HH rails). This technique results in increased hardness and elongation compared to rails in grade R200, but with even lower carbon content. Also, thanks to the higher strain and grain refinement, after only six months of service, track hardness readings increases up to 30-45 HBW due to the strain hardening produced by wheel/rail interaction. Wheels do a smooth grinding on softer steel rails, helping to self-maintain embedded tracks, avoiding any Rail Contact Fatigue or head checks. In addition, since rolling stock wheels are associated with lower speed and low axle weight, the actual wheels do a smooth grinding on softer steel rails, helping to self-maintain embedded tracks, avoiding any Rail Contact Fatigue or head checks.

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Subject to further change