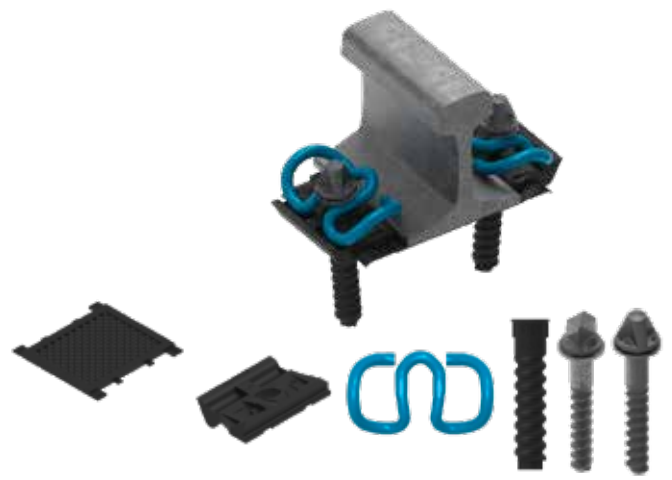# W14HH TYPE SYSTEM

Description

W14HH type fastening system is designed for heavy rail traffic with a maximum acceptable axle load of 350 kN.

Underneath the rail, there is a rail seat pad of high static stiffness. Due to the mid-loop of the clip that is situated over the rail foot, the rail fastening is characterized by additional flexibility.

This eliminates the possibility of overloading the clip arms and their plastic deformation, as well as prevents rail rotation.

Technical aspects of W14HH type system

» **typical field of application** – Heavy Haul with concrete sleeper on ballasted track

» **axle load** – max. 350 kN

» **high rail longitudinal resistance** – min. 9 kN

» **electrical resistance** – ≥ 5 kΩ

» **clamping force for SKL14R (nominal)** – 11.5 kN

» **gauge adjustment** – in the range of ±10 mm

» **material of the rail pad** – HDPE(Zw860HH), PUR(Zw860SHH)

» **static stiffness** – for HDPE (N/A), for PUR (110-160 kN/mm – Etihad rail solution)

» **all of the components can be pre-assembled in the sleeper factory**

W14HH system fulfills requirements of Etihad Rail

» **Freight Trains** – 32.5 t axle load, speed max. 160 km/h

» **Passenger Trains** – 25 t axle load, speed max. 250 km/h

W14HH TYPE SYSTEM

Main parameters – Anti-Corrosion Protection

Clip – Type SKL14R

» **Coating Type:** Zink Flake Coating with 15 - 20 μm coating thickness and additional coloring

» **Protection Level:** C5-H acc. to ISO 12944-6

Screw - Type DHSS35 + ULS7

» **Zinc hot dip galvanized** min. 50 μm

» **Protection level:** C5-H according to ISO 12944-6

Main parameters – Special Rail Pad

Specially developed rail pad for Etihad Rail tracks with static stiffness 110 - 160 kN/mm for perfect durability for heavy haul traffic and excellent noise and vibration damping for passenger trains.

» **Thickness of the rail pad:** 8 ±0.5 mm

» **Material used:** special mixture of TPU

» **Real tested static stiffness in the system:**

» 142.8 kN/mm TUM test report 4010 from Jan 2020

» 134.0 kN/mm Warsaw Railway Institute test report 003525 from Oct 2023

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