

# Application Data

## Railway



### Benefits of Water Jetting

- Increases traction on railheads during leaf fall season
- Does not interrupt passenger services
- Environmentally friendly
- Low water consumption
- When cleaning underground tunnels reduces fire hazards
- Can be used for other cleaning applications including tunnel, sleeper & tank wagon cleaning

### References

- Balfour Beatty Railplant (UK)
- Chiltern Rail (UK)
- China Steel Corporation (Taiwan)
- Kaohsiung Rapid Transit Corporation (KRTC) (Taiwan)
- Taipei Rapid Transit Corporation (TRTC) (Taiwan)
- Nexus (Tyne & Wear Metro) (UK)

Typical Pumps & Performances		
Pump	Performance	Application
HPS2200	83lpm at 1000bar (22gpm at 14,500psi)	Leaf mulch removal from rail heads
HPS3000	120lpm at 1000bar (32gpm at 14,500psi)	Leaf mulch removal from rail heads (high speed)
HPS3000	465lpm at 250bar (123gpm at 3,625psi)	Tunnel, sleeper & drain cleaning

Fallen leaves stick to damp rails & passing trains compress them into a slippery layer that reduces grip. This leaves a thin, Teflon-like layer on the rails, so train drivers have to brake earlier when approaching stations & signals to avoid overshooting & accelerate more gently to avoid wheel spin.

Leaf mulch can also insulate trains from the rails which can affect signalling systems which locate trains. To maintain safety, longer gaps must be left between trains, leading to delays.

Water jetting at 1000bar removes these deposits while the train travels at speed. Our systems can also incorporate a friction enhancing system which comprises a sand-based gel which is applied to the rails after cleaning to help trains gain adhesion.

Water jetting is also used for underground tunnel cleaning to reduce the risk of fire, sleeper cleaning, drain cleaning & tank wagon cleaning.



TRTC unit cleaning sleepers at 320lpm at 210bar



Leaf mulch deposits on rail head before jetting



Rail head after cleaning, 200lpm at 500bar



Nexus unit cleaning rail heads at 83lpm at 1000bar

This information is intended to be a guide only. The required pump size & performance can vary depending on many factors including rate of work required, hardness of deposit or work piece, operator skill, site access etc.

### Hughes Pumps Limited

Spring Gardens, Washington, West Sussex, RH20 3BS UK  
**Tel:** +44 (0) 1903 892358 **Fax:** +44(0) 1903 892062  
**www.hughes-pumps.co.uk** **sales@hughes-pumps.co.uk**



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