**REDUCING REPAIR TIME AND DOWNTIME WITH HEAD WASH REPAIR**

Pandrol’s Technical Director of Welding, Frédéric Delcroix, explains how head wash repairs maximise availability.

With the increase in rail hardness, wear has become one of the most common causes of rail replacement. This affects all railway networks, with the continual impact of wheels jumping on the rail causing defects to become an issue if they aren’t treated in the early stages, before they reach a critical size. Faced with this problem, network operators have a choice: to repair the defect through rail replacement or through HWR.

Undertaking a traditional repair through rail replacement takes a lot of resources. The length of rail that needs replacing could be between four to six metres for high speed. A locomotive must be used to transport the new piece of rail, along with a team to carry it. The process itself involves making two welds. In addition, the rail must be restressed, which is time consuming and requires additional rail stressor equipment.

Rather than replacing the entire section of rail, HWR involves simply treating the defect and filling the gap with a new weld windscreen. This approach saves huge amounts of time and money, with traditional rail replacement costing four times as much as HWR and taking twice the time to complete. Without the need to bring in a new piece of rail, the process becomes much safer, too, with fewer people needed on the track and less heavy lifting.

The aluminothermic weld process is carried out using specially designed moulds. After unmoulding, the weld is trimmed and ground in accordance with the network specifications. The whole process only involves one weld, two welders and one HWR kit. After the weld has been made, the track is cooled, refastened and then the repair is complete. Ninety percent of the rail shape can stay as it was, without the need to cut, realign or restress the track. The whole HWR process takes ninety minutes, as opposed to up to four hours for rail replacement.

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**A WORLD-LEADING SOLUTION**

HWR is versatile and can be used on a range of rail defects of varying sizes. In France, 2,000 welds take place each year to repair flash butt welds, which often suffer from squats or dips. HWR is also used to repair defects on the parent rail, including dips or spots on the rail, and is suitable for transversal Maximising uptime is central to our Pandrol Promise to customers and HWR allows us to achieve this. We are proud to be a world leader in HWR, adding value to rail networks in the USA and Canada since 2008, in the UK since 2013, and in France since 2015. Pandrol has also developed HWR systems for many other countries, such as Brazil, Russia and Australia, and has plans to promote this innovative solution to the network the world over.

It is clear that HWR offers an incredible opportunity to maximise availability for operators, making the rail network safer, smarter and better for everyone.