



**RailTec<sup>®</sup>**

**RailTec CBX**

The preventative system, that reduces rail breakages, track-related incidents and derailments



**HIRD Rail Development** is the appointed Global Reseller for Fatigue Technology (FTI), the world's leading authority on the Cold Hole Expansion Process (CBX) and is used all over the world, from the USA and Canada to the United Kingdom and Japan.

## RailTec CBX - increasing the life of bolted rails

The RailTec CBX Process was developed for the rail industry by FTI as **a preventative system to reduce rail breakages, track-related incidents and derailments**. The life of a bolt hole is increased significantly by producing a zone of residual compressive stress around the hole using the RailTec CBX expansion mandrel and proprietary lubricated split sleeve. The sleeve provides for correct radial expansion and allows for smoother pull forces.

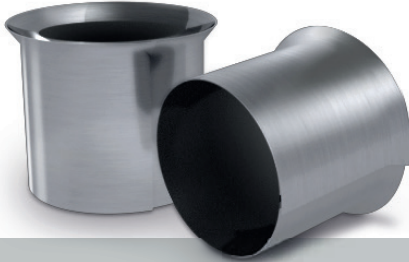
Easily applied to all main line or branch line tracks as part of routine maintenance, rails with small fatigue cracks can be reworked and safely returned to service. The system can be used during the manufacture of rails, level crossings, frogs and switches.



[hirdrailtec.com](http://hirdrailtec.com)



Fatigue Technology's (FTI) RailTec CBX System is a cost effective solution to the problems associated with fatigue cracks in bolt holes in rails.



**RailTec<sup>®</sup>**

**Cold Bolt Hole Expansion  
(CBX) Equipment**

## Benefits of the RailTec CBX system include:

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A proven system in use worldwide for over 40 years and over 30 years by Network Rail.

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Reduces track maintenance costs.

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Extends inspection and maintenance cycles significantly.

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Increases the structural integrity and safety of the line.

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Arrests the growth of micro cracks (star cracks) in holes.

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Simple and easy to use one-sided operation.

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Typically improves the fatigue life of bolt holes by at least 3:1.

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Applicable to new production environments.

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Cost-effective alternative to replacing the rail.

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Holes in existing rails can be cold hole expanded and safely returned to service, providing added protection against undetected cracks.

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Can be applied to fish plates, wheels, bridges and other structures.

**View the video demonstration online at [hirdrailtec.com](http://hirdrailtec.com)**



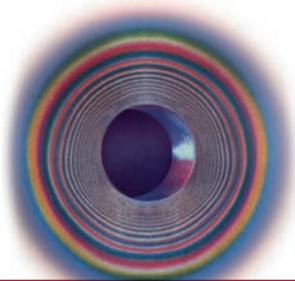
## The preferred method for cold working holes

**RailTec CBX is superior to any other method of cold working bolt holes. The process generates a more controllable distribution of compressive stress around a hole without damaging the integrity of the hole.**

Railtec CBX is accomplished by pulling a tapered mandrel, pre-fitted with a lubricated split sleeve, through a hole in the rail. The disposable sleeve reduces the mandrel pull force, ensuring uniform radial expansion of the hole and allows one-sided processing.

Cold hole expansion counteracts the fatigue-prone characteristics of a

hole by creating a compressive residual stress field around the hole. This effectively shields the hole from the cyclic tensile stress loads that cause cracks to form and grow, thereby improving the fatigue and damage tolerance of the rail.



Zone of compressive residual stress surrounding a cold expanded hole as seen through a polarised filter.



## RailTec CBX familiarisation

RailTec CBX familiarisation is delivered on-site by HIRD Rail Development qualified staff. Installers of the RailTec CBX process should hold the appropriate certification from FTI.

Delegates receive a high quality introduction to the Railtec CBX process in the form of practical hands-on experience. Familiarisation is available to organisations in the UK and abroad. For full details, please contact HRD customer service.

## Buy RailTec CBX split sleeves and parts

For full RailTec CBX tooling systems, split sleeves and parts, contact HRD customer service. The RailTec CBX kit from HRD includes: mandrel, jaws, split sleeves, combination gauge, mandrel gauge, nose cap, puller and PowerPak.



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