



GOLDSCHMIDT

Smart Rail Solutions



COLD BOLT HOLE EXPANSION

**INCREASING THE LIFE OF BOLTED RAILS: PREFERRED
METHOD FOR COLD WORKING BOLT HOLES**

The RailTec™ CBX Process was developed for the rail industry by Fatigue Technology, USA as a preventative system to reduce rail breakages, track-related incidents and derailments.

TECHNICAL DATA

DESCRIPTION

- RailTec™ CBX is accomplished by pulling a tapered mandrel, pre-fitted with a lubricated split sleeve, through a hole in the rail
- It generates a more controllable distribution of compressive stress around a hole without damaging the integrity of the hole
- The disposable sleeve reduces the mandrel pull force, ensuring uniform radial expansion of the hole and allows for one-sided processing
- Cold hole expansion creates a compressive residual stress field around the hole
- The hole is effectively protected from cyclic tensile stress loads
- Can be applied to fish plates, wheels, bridges and other structures
- A proven system in use worldwide for over 40 years and for over 30 years by Network Rail

BENEFITS

- Arrests the growth of micro cracks (star cracks) around holes
- Typically improves the fatigue life of bolt holes by at least 3:1
- Holes in existing rails can be cold hole expanded and safely returned to service, providing added protection against undetected cracks
- Reduces track maintenance costs
- Extends inspection and maintenance cycles significantly
- Increases the structural integrity and safety of the line
- Cost-effective alternative to replacing the rail

CONTENTS

- Mandrel
- Jaws
- Split Sleeves
- Combination Gauge
- Mandrel Gauge
- Nosecap
- Puller and PowerPak

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