bondura®
technology

bondura® expanding pins for the mining industry

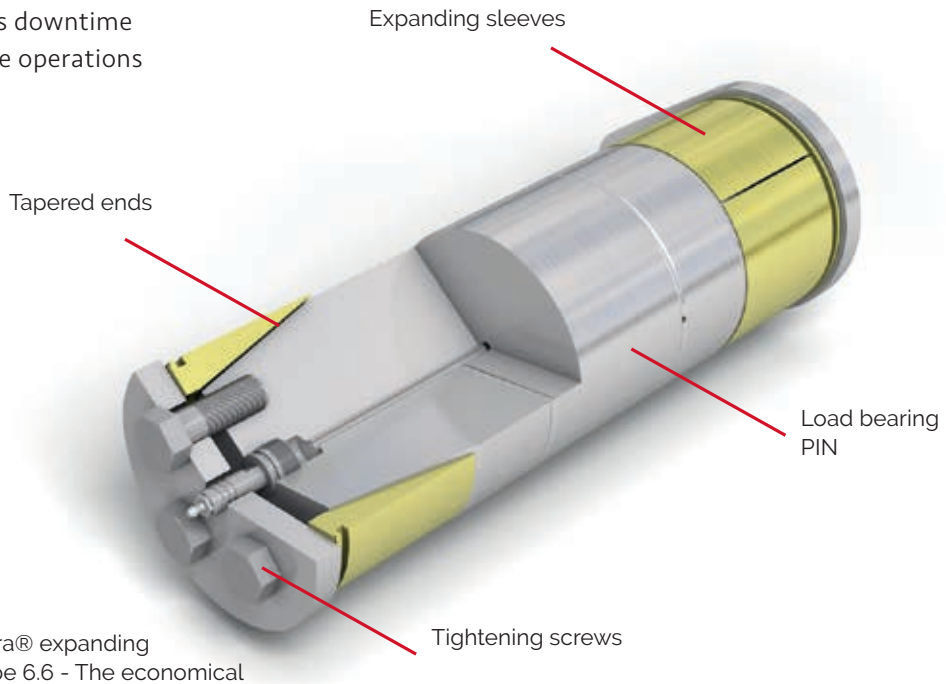
Bondura Technology AS

Bondura Technology delivers pin solutions worldwide, based on bondura® expanding pin technology. We have more than 40 years of experience delivering expanding pin technology to the most challenging environments. Our global network of sales partners ensures a strong presence in the world's major mining regions.

Bondura Technology can be your preferred global partner in fastening technology!

Superior connections for increased customer value

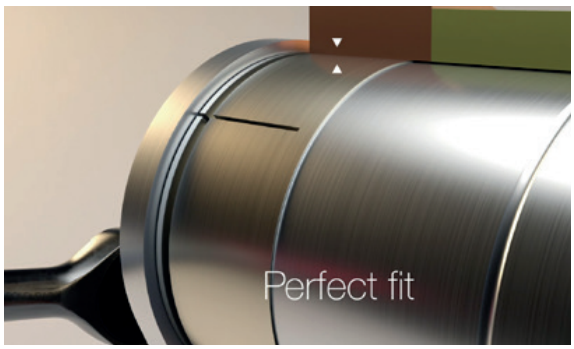
✔ Quick and simple installation & removal
✔ Eliminate line boring
✔ Lower repair and maintenance costs
✔ More uptime – less downtime
✔ Safer, more reliable operations



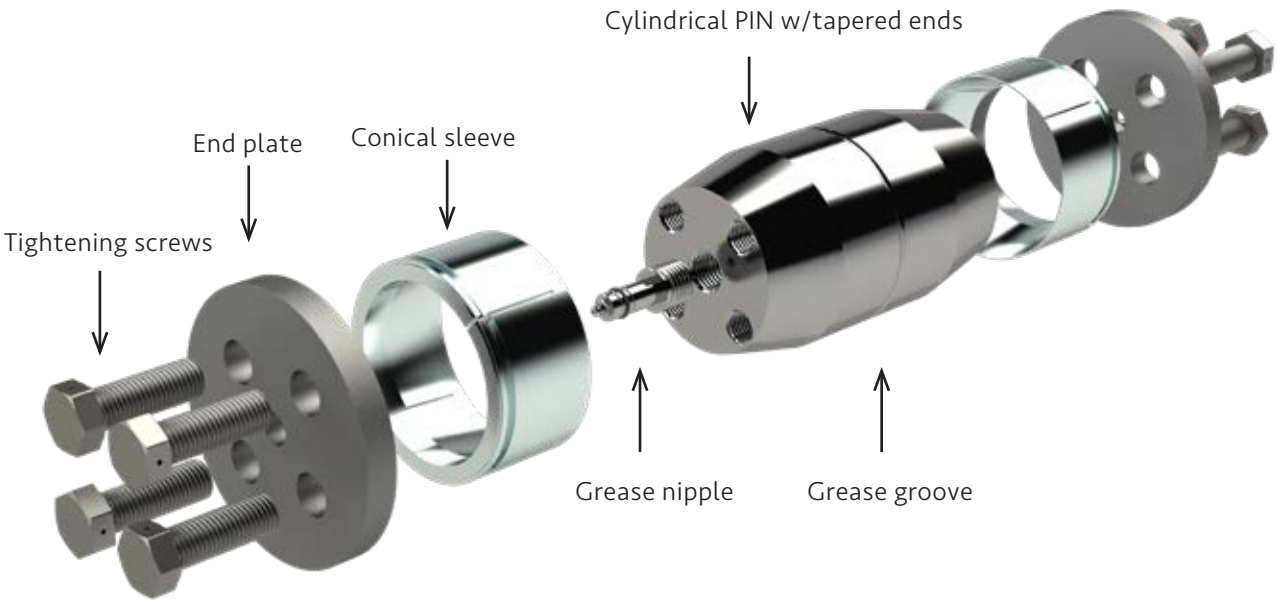
bondura® expanding
PIN type 6.6 - The economical
and ideal solution for your machines.

bondura® expanding pin technology

The principle of bondura® technology is simple and brilliant. The pin can easily be installed because of the tapered ends. The conical sleeves are then installed and tightened according to specification. This causes the sleeves to expand and lock pin into the support. Installation clearance is eliminated and substituted by 360° contact surface between pin and support. This gives an ideal load distribution which eliminates any movement between pin and support bore.



Zero clearance after assembly



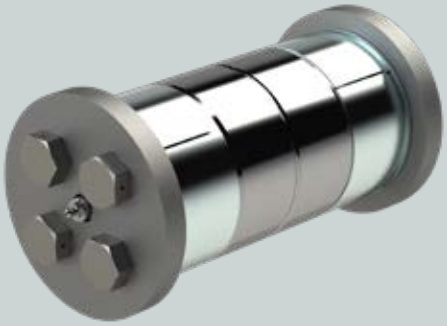
Customer case: CAT 777

Challenges by using standard cylindrical pins:

❍ Wear and tear in the joints
❍ Pin damages
❍ Operational downtime
❍ Expensive repair work
❍ Extensive use of line boring
❍ High-cost OEM parts

Solution by using bondura® expanding pins:

✔ Eliminated pin damages
✔ No more damages in the supports
✔ Improved equipment lifetime
✔ Reduced service time
✔ Eliminated need for line boring
✔ Safer operations
✔ Increased productivity



BONDURA® 6.6

The 6.6 type of expanding pin can be installed and tightened with a handheld torque wrench. It expands by use of tightening screws. The design is applicable to multiple industries.

- Prevents wear in the support bores
- Easy to mount, install, and retrieve
- Safe and secure for personnel
- Economic solution for the company
- An intelligent solution for everyone involved

BONDURA® BX

bondura® PIN type BX is a straightforward and economical solution for smaller and mid-size dimension joints.
The solution requires enough space on one side to install the load bearing pin into the support bore, and the end-sleeve, plate and fastening details at the other.

- bondura® PIN type BX is an easy and economical solution for smaller joints with no strict space requirements on either side
- Designed to fit your needs perfectly
- No relative movements between pin and supports, which prevent tear, wear, ovality, breakage and fretting

BONDURA® 6.1

The 6.1 type of expanding pin can expand radially in both ends, even with access from one end only.

- Perfect to use in positions with poor access
- Prevents wear and tear in the support bores
- Prolongs the lifetime of the equipment
- A safe, secure, and intelligent solution

Optimal for all mining machines

- Front loaders
- Excavators
- Dumper trucks
- Drilling equipment
- Buckets
- Rammers
- Hydraulic hammers
- Grippers
- Cranes of different types and models
- Any other type of machines and equipment

EXCAVATOR

DESCRIPTION	STANDARD PIN	BONDURA
COST OF PINS (6 EA)	3 900	7 200
REWORK & INSTALLATION	16 000	8 000
REWORK & REPLACEMENT AFTER 3-5 YEARS	19 900	0
NEW CERTIFICATION	0	0
DOWNTIME	32 HOURS	8 HOURS
TOTAL COST OVER 9 YEARS (USD)	**39 800**	**15 200**

DUMPER TRUCK

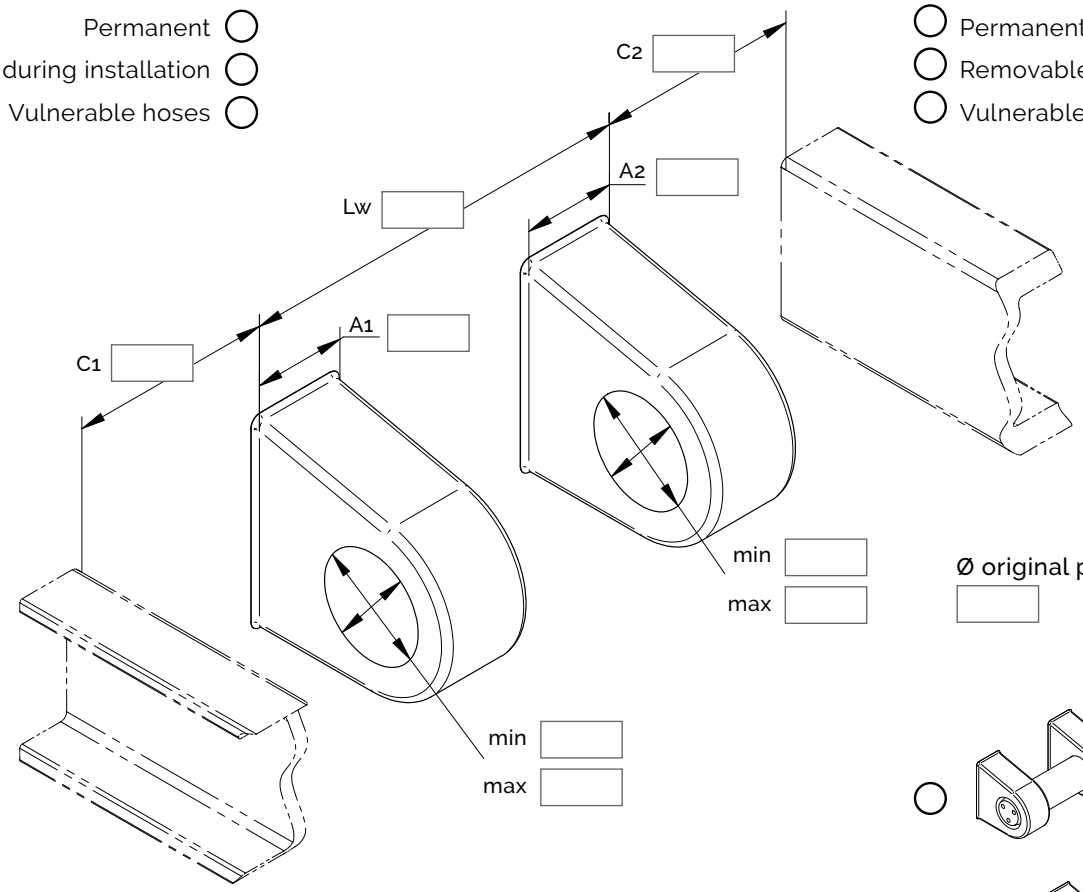
DESCRIPTION	STANDARD PIN	BONDURA
COST OF PINS (8 EA)	3 500	5 000
REWORK & INSTALLATION	6 200	2 400
REWORK & REPLACEMENT AFTER 3-5 YEARS	9 700	0
NEW CERTIFICATION	0	0
DOWNTIME	32 HOURS	6 HOURS
TOTAL COST OVER 9 YEARS (USD)	**19 400**	**7 400**

bondura®
DESIGN SHEET

The customer is responsible for the accuracy of all measurements and data written in the design sheet submitted

Type of obstacle:

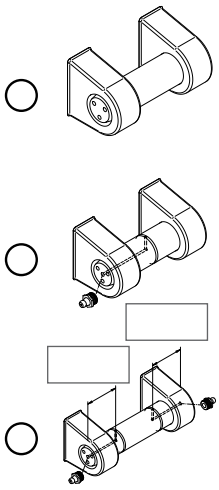
- ◯ Permanent
- ◯ Removable during installation
- ◯ Vulnerable hoses



Type of obstacle:

- ◯ Permanent
- ◯ Removable during installation
- ◯ Vulnerable hoses

Ø original pin



quantity	
material	
equipment	
position	

company	
contact person	
telephone	
e-mail	
delivery address	

Additional requirements:

- ◯ Documentation incl. 3.1 cert.
- ◯ NDT of pin
- ◯ Certification (DNV GL, ABS, etc.)
- ◯ Wedgelock washers
- ◯ Safety wire holes
- ◯ Positioning details

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