METALOCK (Fractured Metal Repair)

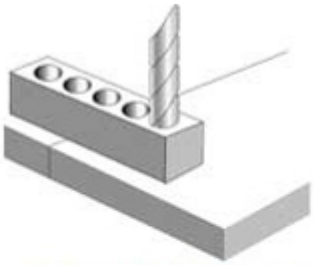
The METALOCK process of "stitching" fractured metal is completely cold therefore avoiding undue thermal stresses imparted into the parent metal. Other advantages of the repair process are: (a.) it distributes mechanical stresses; (b.) maintains relieved condition of the metal where cracks occurred from inherent stresses. And (c.) eliminates the risks of open flame. It also maintains alignment and a majority of the repairs can be done in-place with little or no dismantling.

The Metalock Process is a repair system based on fundamental engineering principles, an emergency service on offer throughout the marine & industrial world.

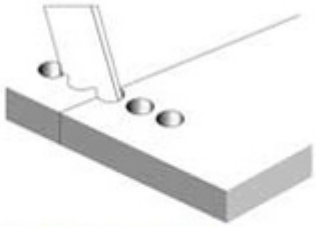
- Repairs to cast iron, steel, aluminium and other alloys
- Many repairs can be carried out onsite, with usually a very great saving in time and dismantling.
- Maintains alignment and original surfaces with little or no machining or re-machining required.
- Dampens and absorbs compression stresses and spreads the tensile strains.
- Distributes the load away from fatigue points.
- The repair being completely cold does not require the application of heat which often introduces fresh stresses.
- A pressure tight seal can be achieved due to the interlocking between Metalock keys and studding.
- Metalock continue to develop new and stronger materials that are only supplied to M.I.A. members.
- The Metalock repair process is used successfully and recognised by the Classification Societies.
- Used extensively in the marine industry, rail and other transportation, industrial and power plants etc., and heritage structures.

This unique Metalock process originated in the oil fields of Texas in the 1930s and is now recognised and used throughout the world.

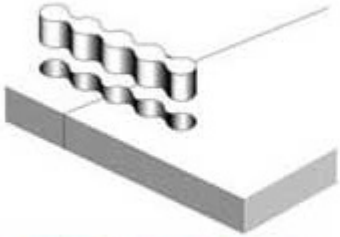
METALOCK DIAGRAM



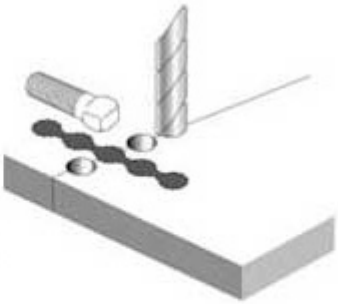
1. Using a drill jig, rows of blind holes are drilled perpendicular to the direction of the crack, each row to act as a key.



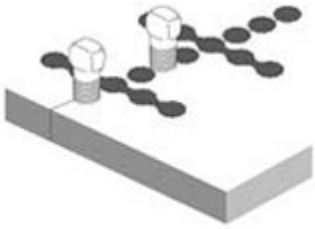
2. The intermediate partitions are removed with pneumatic chisel.



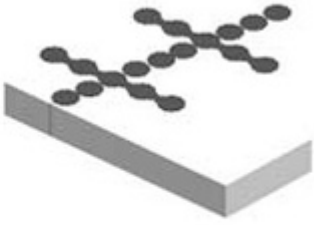
3. Metalock keys are driven into the openings and caulked.



4. Holes for Metalock screws are drilled along the crack between the keys.

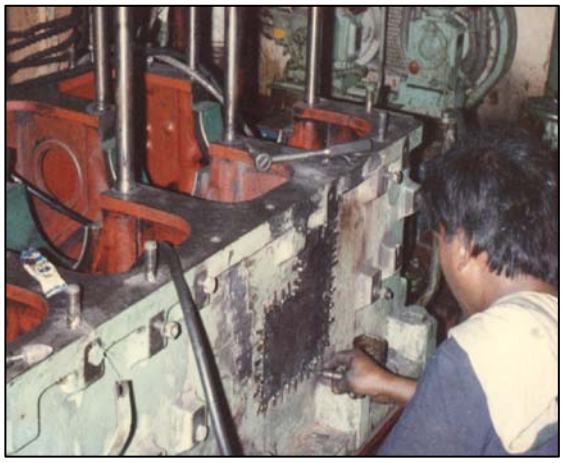


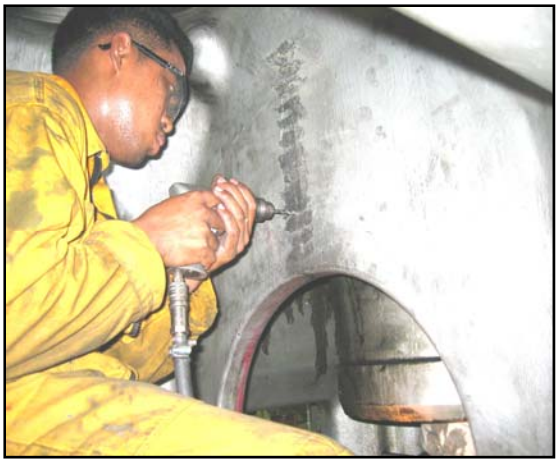
5. The screws are fitted to ensure they overlap, effecting a seal along the fracture.



6. Finally, the entire installation is caulked to ensure stability and pressure tightness.

SAMPLE PHOTOS





SAMPLE PHOTOS