



DECON CONSULTING ENGINEERS



"Decon Consulting Engineers" was established in the year 1994 to initiate business in consultancy, Design, Engineering, Manufacturing & Fabrication of various equipment & system in different Industrial disciplines. In its moves towards the Millennium, **'Decon'** has diversified its fields of business to various service application viz. **'Metal Stitching'** & **'On Line Leak Sealing'**.

METAL STITCHING

WHAT IS METAL STITCHING?

This is a cold repairing process for repair of cracked, broken & blown off casting. This is an unique process for repair of Cast Iron, Cast Steel & Cast Aluminum machineries & equipment. It holds strongly even where welding fails.



Repairing of broken Alternator Body
in a Marine Engine on-Shore



Patch Plate stitched on blown-off portion
of Marine Engine by using Dovetail

WHAT ARE THE ADVANTAGES?

- ◆ The job is undertaken at site & situ condition.
- ◆ Dismantling is not required normally.
- ◆ The repair being completely cold, does not require any application of heat thereby avoiding thermal stress & grain structure of the parent material remain unchanged even after repair.
- ◆ Inherent stress in the casting are relieved.
- ◆ The process permits 100 percent Leak Free repair of crack in pressure parts.
- ◆ The process of repairing will save the time & cost of re-casting.

APPLICATION :

Repair of cracked, Broken & Blown off parts of Engine Block, Cylinder Head, Turbo charger, Crank case, Gear Box Housing, Pump Casing & pedestal, Mining Equipment, Generator, Lathe, Presses, Milling Machine, Turbine Casing, Induction Motor Broken Legs, Forging Hammer Body & any type of Casted Parts, Machineries or Equipment.



Cylinder Head of MW Engine,
crack in combustion chamber
repaired by Metal Stitching



Service is something we take personally

PROCESS OF DOVETAIL STITCHING :



Process : I



Process : II



Process : III

PROCESS :

- 1) Visible & Invisible cracks are identified.
- 2) Holes are drilled across the length of crack at suitable intervals for the Master locks, their shape & size vary depending upon the strength requirement of the job.
- 3) Taper threaded plugs are placed along the length of crack overlapping each other to ensure a leak proof repair.
- 4) Hand grinders are used to give a clean & smooth finish to the repaired portion.



Plug stitching on crack portion

Stitching Process is going in overlapped manner



LIMITATIONS :

Ni-Hard Casting/Alloy Cast iron or any other metal whose hardness exceeds more than 350 BHN can not be repaired by metal stitching process due to the hardness induced by Heat Treatment. Metal stitching process is limited upto maximum temperature of 750°C.

SERVICE :

Our service is available 24 hours a day, 7 days a week through out the year. Prior to undertake a repair work, a pre-execution inspection is necessary. Detailed information from client in the equipment, length & depth of the crack, approximate hardness etc, would enable Decon to respond properly.



BOTTOM TABLE OF 63/12MN WHEEL FORGE MACHINE UNDERGONE REPAIR AFTER BROKEN

Decon Consulting Engineers
 19/1, Sarat Chatterjee Road, Santragachi, Howrah - 711 104
 Phone : 2677 7887, e-mail : contact@deconengineers.com

JOB COMPLETION CERTIFICATE

Work Order No.:
 Party's Name: M/s. SAIL - Kalyan Thermal Power Station
 Method: Metal Stitching Method (944E)

Date	Description of Job	Temp. In C	Pressure In Kg/cm ²	No. of Anvils	No. of Bolts	Remarks
22.05.11	Excessively filling Crack in valve bracket by metal stitching of 84" length	200C	100kg/cm ²	01		Job Completed Successfully on Day

Client's Signature: [Signature]
 For Decon Consulting Engineers: [Signature]

**JOB COMPLETION CERTIFICATE FOR UNIT # 6 LP
 TURBINE TOP CASING CRACK REPAIR BY METAL
 STITCHING METHOD**

This is to certify that M/s. DECON CONSULTING ENGINEERS, Howrah, have completed the crack repair of LP Turbine top casing of Unit # 6 by Metal stitching method successfully. They have started the job on 25-09-03 & completed on 28-09-03. Total crack repair length is 84".

Detail of crack repair length :

Straight length of crack : 56"
 Length of Master lock : 10"
 Length of Lock : 18"

 Total crack repair length : 84"

[N.K. SENGUPTA]
 Sr. Supdt. [TMD]
 NIPOTIS

एन.के. सेनगुप्ता/N.K. Sengupta
 Sr. Supdt. (TMD) (D&M-TMD)
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**JOB COMPLETION CERTIFICATE FOR REPAIR OF
 CRACK ON TURN TABLE OF WASHER-6, PHASE-II BY
 METAL STITCHING METHOD.**

Ref. W.O. No: TS & CRACK-1114W-1114S-1114S-1114S-1114S

This is to certify that M/s. DECON CONSULTING ENGINEERS, Howrah, have completed the crack repair job on Turn Table of Washer-6, Phase-II by Metal stitching method successfully. They have started the job on 21.06.2007 & completed it on 26.06.2007. Total crack repair length is 80" length.

Details of crack repair length:
 Straight length of crack : 54" length
 Length of Lock : 25" length
 Total crack repair length : 80" length

The following persons witnessed the above said job.

M/s. SAIL

[Signature]
 P. K. DASGPTA
 Sr. Manager (MECL)

M/s. DECON CONSULTING ENGINEERS
 S.K. CHAUDHARY

(M. & R. COMPLEX) DAMANJODI



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APPRECIATION FROM SAIL-DSP

ENTERPRISE

transporting entire slurry from the gas cleaning plant of BOP through pipelines to the Coke Oven pond near Battery 6. Presently, the slurry is transported through dumpers to the Slag bank, which leads to spillage and damages different roads in the plant.

A stitch in time

A timely action averted a possible crisis. The top table of wheel forge mill of the Wheel and Axle plant, which is used in forging of wheel inputs, had developed a crack. The repair was not only urgent but critical as well since the job entailed

expertise and precision. Working on time, the fitting shop of Central Engineering Maintenance department took up the repairs with support from outside specialists. DECON determined the extent of crack by die penetration test. After critical evaluation it was decided to go for cold stitching of the crack. The entire material from the crack was scraped out from the crack and was filled with special steel material. Clamping of the groove with series of drilling and tapping followed filling operations. Finally the crack was successfully repaired.



The crack seen from fitting shop of DSP

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FRIENDS DECORATOR
 C/O MILAN CHATTARAJ
 BHIRINGEE, DURGAPUR, WEST BENGAL

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Service is something we take personally