

**Case Study**  
**24” Repair of Sea Water Header**  
**(Leaking Tee Joint) using Clock Spring®**  
**Contour Composite Wrapping**



# 24” Repair of Sea Water Header (Leaking Tee Joint) using Clock Spring® Contour Composite Wrapping

## 1 Defect area

A 24” Tee joint sea water header had through wall metal loss and water was Leaking due to internal corrosion. The leak was arrested by welding a 10” pipe branching off at the 6 O'clock position.



## 2 Clock Spring® Contour Application

Clock Spring® Contour composite wrapping technology was proposed by SKPS as a repair for the geometry. The complete configuration of the pipe including the branches was reinforced.



## 3 Clock Spring® Contour Application

3.5 meters in total where applied on the pipe and the relevant branches. The application, including the surface preparation and necessary safety precautions where completed in 2 days.



## 4 Design Criteria

|                       |   |
|-----------------------|---|
| Operating Temperature | : Ambient (35°C- 50°C)                      |
| Operating Pressure    | : 8 PSI                                     |
| Defect Type           | : Internal Corrosion                        |
| Size                  | : 24 inch                                   |
| Material              | : Carbon Steel-Cement lined                 |
| Defect Analysis       | : Wall metal lose due to internal corrosion |
| Orientation of leak   | : 6 o'clock                                 |
| Lifetime              | : 3Years                                    |