



شركة خدمات منع التآكل (إن دي تي)
NDT CORROSION CONTROL SERVICES Co.

CONTACT DETAILS

HEAD OFFICE

NDT CORROSION CONTROL SERVICES
 Post Box No. 322, Dammam 31411
 Kingdom of Saudi Arabia
T : +966-13 844 7700 / 846 8328 / 841 7464
F : +966-13 846 8353 / Ext. 871
E : info@ndtcorrosion.com / ndtccs@sps.net.sa
www.ndtcorrosion.com

KSA SITE OFFICES:

NDTCCS - JUBAIL: **T**: +966-13 367 0173 - **E**: jubail_ndtccs@ndtcorrosion.com
NDTCCS - YANBU: **T**: +966-14 357 1868, **E**: yanbu_ndtccs@ndtcorrosion.com
NDTCCS - JAZAN: **E**: jazan_ndtccs@ndtcorrosion.com

BRANCH OFFICE

UAE

Ndt Corrosion Control Services
 Post Box No. 132931, Mussafah,
 Abu Dhabi, UAE
T : 00971-2 5559764 / 5555943
F : 00971-2 5559799
E : ndtccs@emirates.net.ae

BAHRAIN

Levels 19 & 20
 Bahrain World Trade Center
 King Faisal Highway, P.O. Box 90100
 Manama, Kingdom of Bahrain

OMAN

HI-TECH INSPECTION SERVICES LLC.
 P.O.Box: 1809, PC: 112 Ruwi
 Building No.59, Block No. 359
 Way No.5901, Al Russayl, Oman
 GSM : (+968) 99845846
 CUG : 780
T : (+968) 24449092 | 24446444
 (+968) 24449010 | 24446414
F : (+968) 24449091
E : anson@hitechoman.net
W : www.hitechoman.net
 Location: Google Map Link

KUWAIT

Ndt Corrosion Control Services
 Agency: M/s Thuwainy Trading Co. K.S.C.C.
 P.O. Box 171, Safat 13002
 Kuwait.
T : 22460550 / 22461289
F : 22409219/22428868
E : info@ndtcorrosion.com

Profile



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 SAUDI ARABIA / UAE / KUWAIT / BAHRAIN / OMAN

www.ndtcorrosion.com



"WE ARE FULLY COMMITTED TO OUR CUSTOMERS"

METALLURGICAL - MECHANICAL & LABORTORY SOLUTIONS

METALLURGICAL - MECHANICAL & LABORATORY SOLUTIONS

COMPANY PROFILE

NDT Corrosion Control Services Co. (NDTCCS) was established in 1975 as a fully owned Saudi company and as one of the subsidiary company of well-known Abdullah Al Shuwayer group. In year 2015 major share of NDTCCS has been acquired by INVEST CORP BANK, a leading financial GCC institution as part of strategic partnership between Abdullah Al Shuwayer group and INVESTCORP. In year 2017 NDTCCS acquires major share of Hi-TECH Inspection Services, Oman.

NDTCCS is a well-known reliable committed global mass NDT Inspection services provider and fully committed to realizing its customer's requirements as per its Quality Management System ISO 9001-2015, Environmental Management System EMS 14001 & Occupational Health & Safety Management System OSHAS 18001. NDTCCS Laboratory is ISO 17025 Accredited & Aramco Approved. NDTCCS has successfully completed several projects and contracts for a vast number of satisfied customers.

We offer our NDT & other services all over in GCC with man-power strength of one thousand eight hundred in GCC region with highly professional technician, Inspectors & Experts. Our Head Office is located at Dammam in Saudi Arabia and other branches are at Abu Dhabi in UAE, BAHRAIN, KUWAIT & OMAN.

We welcome you to visit our website www.ndtcorrosion.com to know us better. It is our desire to work with you on projects where you feel our services can be best utilized.

OUR MISSION

We take a more personal approach to customer service that not only tends to our customer's need but also integrates them into our organization. We listen to their needs, make their priorities as ours, and aspire to be trusted partner. Our goal is to achieve complete customer satisfaction.

METALLURGICAL – MECHANICAL & LABORATORY SERVICES

NDTCCS has been actively engaged in In-situ metallography (Replica) Jobs, Micro, Macro Test, Metallurgical –Mechanical material testing, Failure Analysis & Accident Investigation, Remaining Life Assessment (RLA), RBI, Corrosion testing, Chemical Analysis, Characterization, Biological samples Analysis, Corrosion Testing, WQT & WPQR etc.

Refinery & Petrochemicals



Power Generation



Offshore Oil Plant



Manufacturing



Automobile Industry



Aerospace Industry



Shipping



Construction



Defence



Steel plant



Nuclear power plant



Water heat treatment plant



Pipe Line



Pressure Vessels



Mine Industry



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Remaining Life Assessment (RLA) can be approached for all major equipment and its components in process plants by through Level II & Level III assessments.

- Understanding the actual degradation mechanism.
- Visual examination.
- NDT tests, involving in-situ metallography, UT, MT, PT, FM etc.
- Stress Analysis to understand the strength of material.
- Laboratory Testing.
- Judgment on fitness of equipment.
- Suggestions on repairing if any.
- Judgment on Remaining Life based on analysis



Fitness for services (FFS) assessment is performed to make sure that process plant equipment, such as pressure vessels, piping, and tanks, will operate safely and reliably for some designated period. FFS Level I & Level II are carried out as per the API 579 Fitness & ASME guidelines. The following action plan is proposed for the FFS study of isomerization reactor –

- Collection of background data and history of failure.
- Conducting FFS assessment starts by following tests.
- Visual examination.
- Dimension measurements.
- WFMPI, DP or FDP of Weld Joints for surface flaws
- Ultrasonic testing for Internal flaws.
- Ultrasonic thickness measurement.
- In-situ metallography at critical locations.
- In-situ Hardness measurement .
- If any defects are observed during the testing then they will be further characterized by Advanced NDT testing such as ToFD, FEA, Simulation, quantitative metallography of replicated microstructures, Scanning electron microscopy of Microstructure.
- Co-relation of investigative findings to published literatures along with brain-storming sessions with plant operational group for de-rating of design specifications, if necessary
- Certification for Fitness-for-service of equipment.

SERVICES INCLUDES:

1. IN-SITU METALLOGRAPHY (REPLICA)
2. MICRO-MACRO METALLOGRAPHY ANALYSIS INCLUDING SAMPLE PREP.
3. FAILURE / ROOT CAUSE ANALYSIS (FA/RCA)
4. REMAINING LIFE ASSESEMENT (RLA)
5. RISK BASED INSPECTION (RBI)
6. FITNESS FOR SERVICES (FFS)
7. TENSILE, IMPACT, HARDNESS, BEND, ELONGATION, YIELD ETC.
8. WELDING PROCEDURE QUALIFICATIONS (WQT & WPQR)
9. CORROSION TESTING (IGC, HIC, PITTING, FERRITE CONTENT)
10. CHEMICAL ANALYSIS (Wet Chemical, Water, Oil, & Mud analysis, OES metal analysis, Ferrite content test)
11. GENERAL CHEMISTRY & MICRO BIOLOGY SERVICES

LAB FACILITY DETAILS:



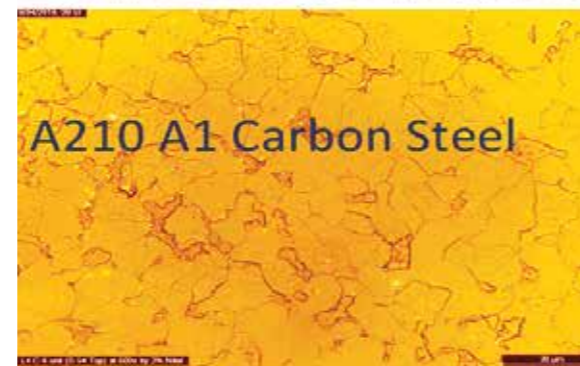
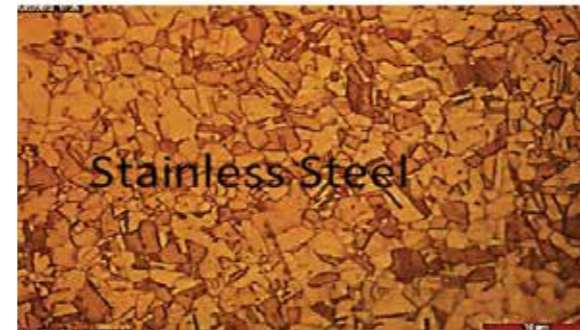
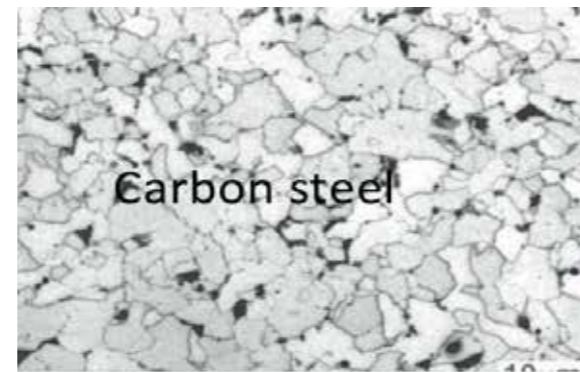
- NDTCCS Mechanical Testing Lab is approved by Saudi Aramco.
- ISO 17025 Accredited Lab & Aramco Approved.

In-Situ Metallography is a non-destructive testing tool and it is used for remaining life of components by prepare & evaluating the replication of microstructure. Application areas include fertilizer, petrochemical, aerospace, chemical plants, foundries, forge shops, steel plants, automobile, oil & gas, off shore structures and chemical processing industries.

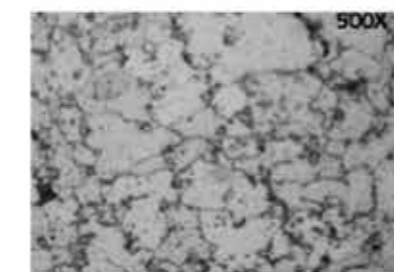
- Onsite Examination of Plant Equipment to find out in-service degradation of critical components of the process plants operating under high temperature/high pressure/corrosive atmosphere.
- In-Situ Metallography can be used to determine remaining life, fitness for service, and damage assessment from creep mechanisms or fire damage.
- To develop a data bank of critical components of equipment of process plant by periodical monitoring for preventive maintenance and planning
- To check the quality of the microstructure of component for intended service before putting in to use.
- Microstructure survey for critical components such as Boilers, Pipelines, Reactors and Vessels for condition monitoring/health assessment.
- Replication of microstructure analyses under high-end resolution Inverted Metallurgical Optical Microscope at NDTCCS.

Failure in critical high technology areas, such as aerospace technology, nuclear technology, power plant, petrochemical, fertilizer, refineries, oil & gas can be very devastating. Failure is an unexpected, unacceptable & unavoidable event in the service life of a component or structure. In service, failures accident of engineering components has great impact on the society and its economy.

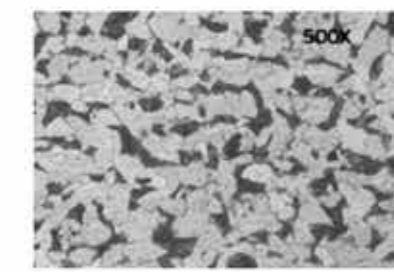
The failure analysis can play a pivotal role in establishing liability in litigation and it provides the best tool for improving the reliability, longibility and safety of engineering components and structures & save economy.



Cross section boiler tube



Optical microstructure near at boiler rupture zone

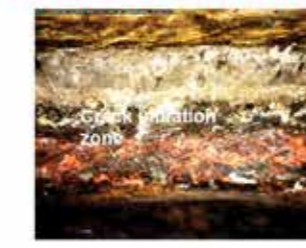


Optical microstructure away from the boiler rupture zone

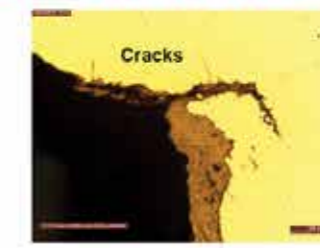
FAILURE ANALYSIS OF BOILER TUBE



Converter roof open like dolphin fish mouth



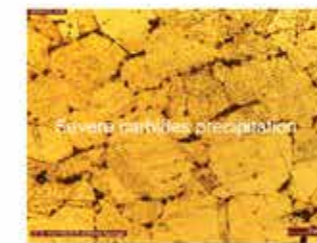
Stereo image of failure zone



Cross section optical image unetched



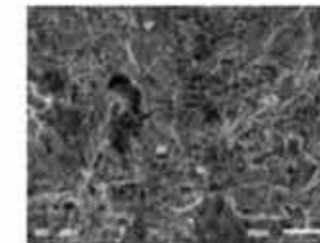
Cross section optical image etched



Cross section optical image with etched



Fractography by SEM

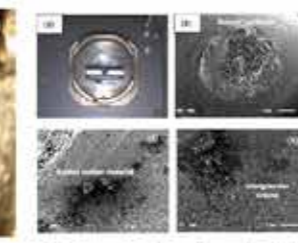
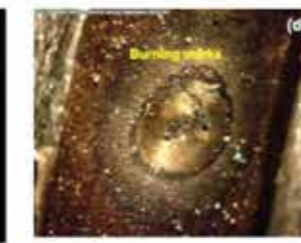


Cross section for hardness measurement

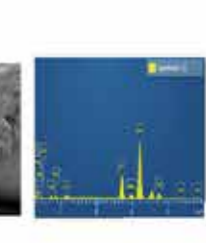
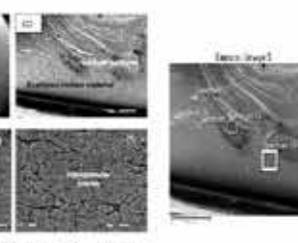
FAILURE ANALYSIS OF CONVERTER ROOF IN ACID PLANT



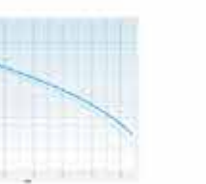
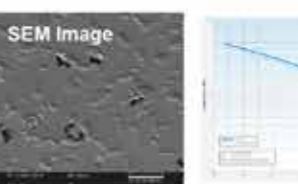
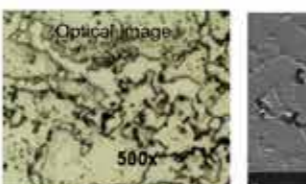
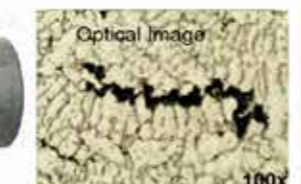
Stereo image of out & inner surface



Characterization by SEM - EDAX



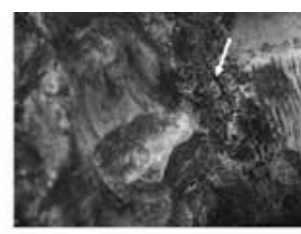
FAILURE ANALYSIS OF Differential pressure gauge tube in thermal gas unit



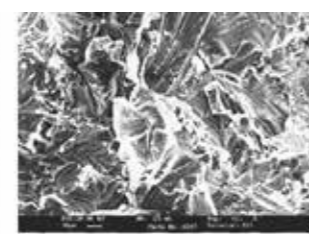
FAILURE ANALYSIS OF HIGH TEMPERATURE REFORMER TUBE IN METHANOL PLANT



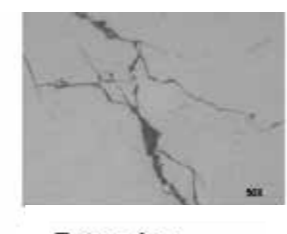
SS Wash water line



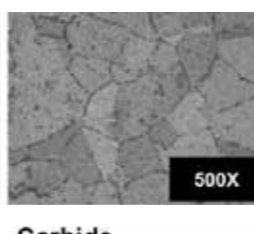
Close of view of the crack



Cleavage features by SEM analysis



Extensive branching by OM



Carbide precipitation along the GBs

FAILURE ANALYSIS OF WASH WATER LINE



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