

INSPECTION PROCEDURE FOR AIR COOLED HEAT EXCHANGERS

*industrydocs.org - sample
blacked out for copy protection*

on guidelines to ensure
tion of air cooled heat exchang
containing parts of the exchanger also

Safety Data Sheets (MSUS) are electronic
ed to in the MSDS program by equipment num
d by searching by manufacturer, product name, o
cedure user is responsible for referring to the appro

Corporate Safety Procedures shall be referenced to for a
they are accessible electronically plant wide by going to t
Services tab on the Intranet. Personnel are responsible for
appropriate safety procedures.

National Board Inspection Code ANSI-NB-23, Latest Edition

API-510 Pressure Vessel Inspection Code: Maintenance Ins
Repair, and Alteration; Latest Edition

American Society of Mechanical Engineers (ASME), Section

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Applicable Local, State and Federal Regulations

Applicable Engineering Standards and Practices API

RP571 Conditions Causing Deterioration and Failure

RP572 Inspection of Pressure Vessels

1 Air Cooled Heat Exchangers for General Re

Management of Process Hazards

Inspection Pro

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history

current mechanical design requirements

previous repair history

Re-rating history Material degradation

- Corrosion rates

The Authorized inspector should take into consideration operating conditions and the process chemistry the equipment is subjected to and potential degradation mechanisms.

External Inspection

- External inspection of an air cooled exchanger is part of the determination of mechanical integrity.
- The Authorized Inspector should examine platforms, stairways, and their supports (including fireproofing), to ensure serviceability.
- The concrete pedestals, foundations and steel structures should be examined for cracks, chips, spalling, or deterioration. Welded connections should be inspected to insure that they are sound.
- The Authorized Inspector should ensure that the equipment is stamped or identified.

Nozzles should be examined for distortions, cracks, and corrosion degradation.

Inspection determinations should be made to determine the condition of the exchangers using Ultrasonic testing. All findings should be entered into the PCMS database.

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When tubes are removed, the tubesheet should be inspected, an Internal visual Inspection should be performed to check for cleanliness, pitting, erosion or other damage. Locations of indications should be noted. Locations of indications should be noted. Locations of indications should be noted. Drawing or sketch along with measured quantities.

Additional inspection methods such as eddy current inspection (IRIS) may be performed on the tubes to determine the condition of the tubes. These uses of these methods shall be at the discretion of the Authorized Inspector.

Repairs

All repairs performed on this equipment should be authorized by the Authorized Inspector and will be done in accordance with applicable codes and procedures. Repairs should be documented and included in the Equipment Files.

Nonconformances

- Nonconformance (Definition) - Any change in the condition described on the original manufacturer's data report (API 510 or repair/alterations that affect the pressure capability of the exchanger.
- Nonconformance conditions will be reviewed by a team (typically Area Maintenance Engineer and Area Inspector) to make repair or alteration recommendations to assure code and code compliance. A SAP Mechanical Integrity form is used to document and request repairs.

Nonconformance issues not resolved in a timely manner should be reported to refinery senior management.

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RY
ES
ADER BOXES
NOZZLES
REPAIRS
PAINT/INSULATION
LADDERS/PLATFORMS/SUPPORTS

END OF PROCEDURE