

Air Cooled Heat Exchanger Fouling

During operation ACC heat exchangers get fouled.

The different kinds of fouling are:

- Fibers and dust
- Bird droppings and pollen
- Lime stone from water
- Oil products
- chemicals

Fouling on ACC's

Typical fouling Single Row Condenser tube
Fouling on one side of the base tube due to
air flow direction initiated by the fans



Fouling

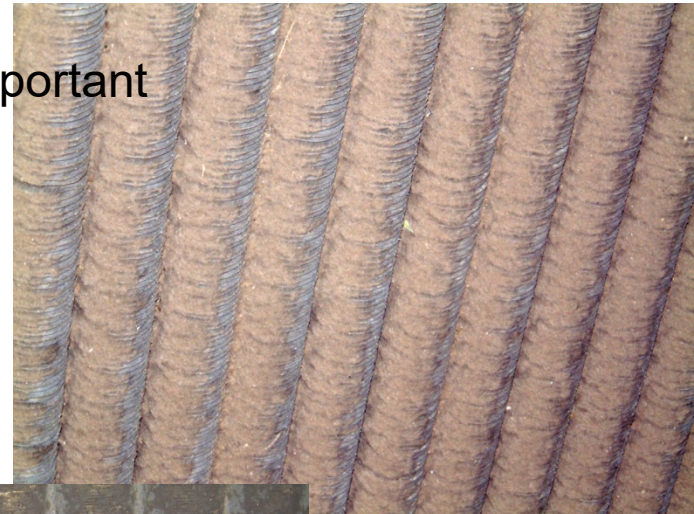
Fouling takes place as long as there is an airflow.

Fouling increases the air-flow resistance over the finned tubes, therefore there will be less air for cooling.

The reduced heat transfer coefficient is less important



Solid mud by chemical cleaning

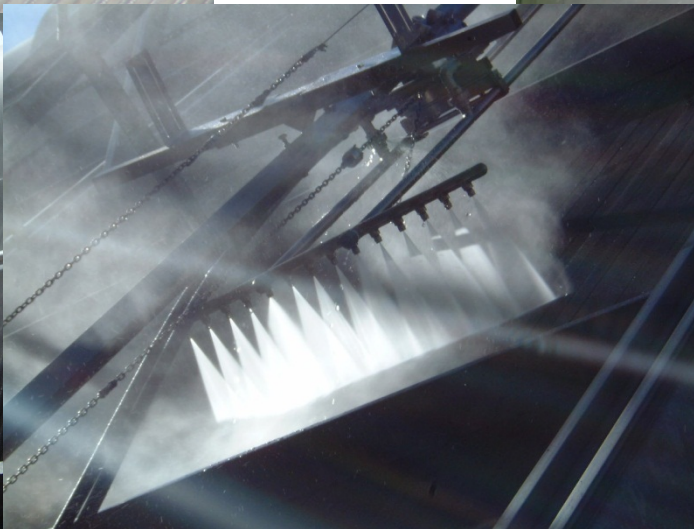


fibers



Dust and season pollen

A-frame coolers

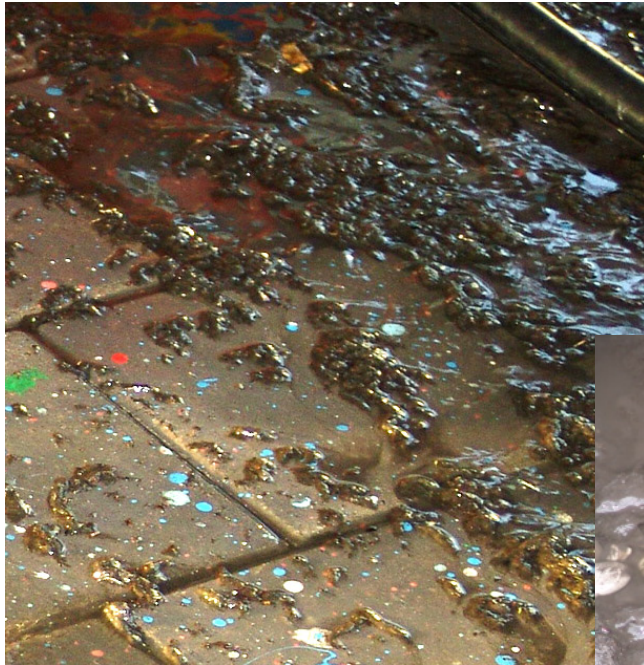


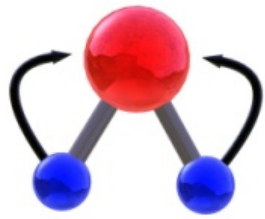
Powerful water beams
Penetrating through
bundles

Material removed from fins

Dust and fibers collected under air cooler.

This material is hardly to be removed by chemical cleaning.





ACC TEAM

8-ACC Cleaning System

自动清洗系统



Powerful water beams
Penetrating through
bundles

Fouling

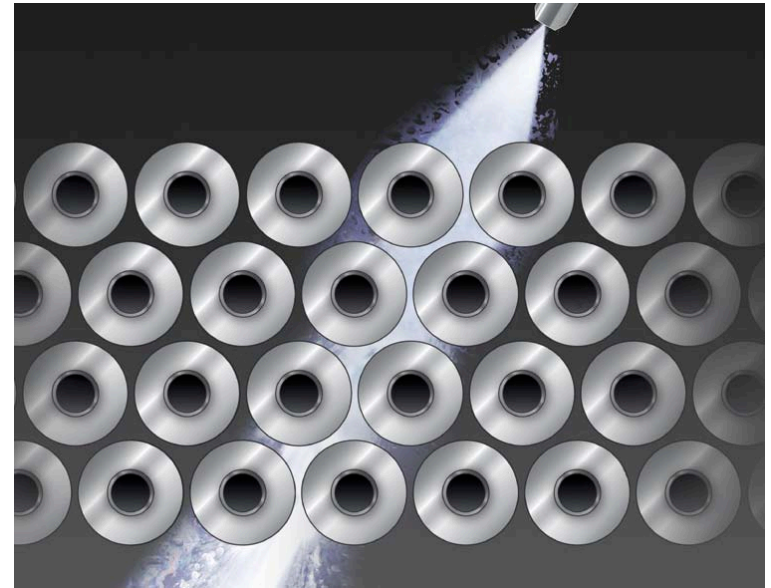
Removal of fouling

Heavy fouling



Clean finned tubes

The cleaning process



Impact of water removes fouling
No chemicals or detergents used

ACC Bundle Cleaning



Powerful water beams
Penetrating through
bundles

Kinds of fouling

Fouling is always present at the bottom
Removal must be done in opposite
direction of the air flow.

Dust and fibers, netting



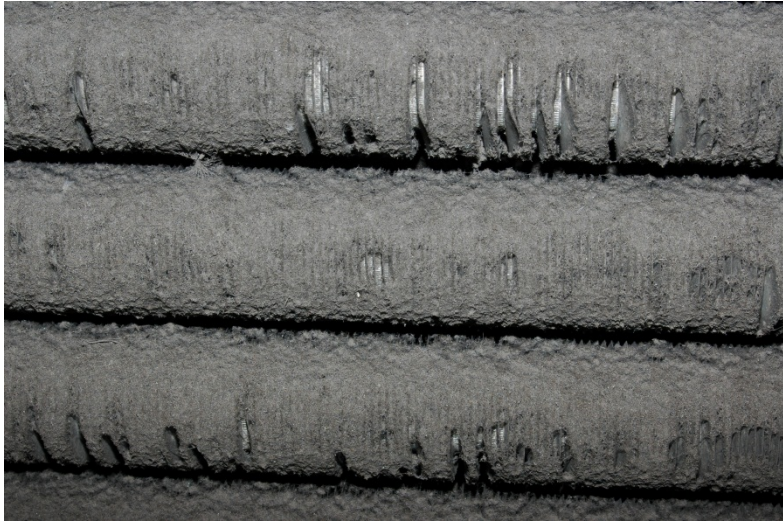
Fibers and dust



Damage by manual HP cleaning



Heavy fouling



Dust and fibers, easily to be removed



Lime stone by water spraying over bundles
Very hard to be removed