

Application Bulletin

LAKOS Separators Promote Multiple Savings for Steel Mill

Faced with excessive costs to repair and rehabilitate their strainer-type filtration system, California Steel (originally Kaiser Steel) in Fontana, chose instead to protect the roll steel processing system at their hot strip mill with a manifold of three LAKOS Separators. Removing slag, grit, scale and other solids from the closed circuit supply of water from their own utility's cooling towers, the LAKOS Separators effectively prevent excessive wear to a system of five high-pressure pumps and have more than tripled the life of their more than 1,000 spray nozzles used to cool rolls and form steel. Additionally, clogged spray headers, once a problem which required weekly flushing, monthly change-out and still occasionally resulted in costly unscheduled shutdowns (up to \$1,600/minute) have been completely eliminated.

"The end result," says Mr. Ernie Tudor, Division Lubricating Engineer, Rolling Mill Maintenance at California Steel, "is dramatically increased productivity and noticeably improved quality in our rolled steel."

Tudor, who chose not to repair their old automatically backflushed strainers and initiated the investigation for a suitable alternative, claims the LAKOS Separators are much more effective and reliable than their previous system, offering increased performance and better separation efficiency without the burden or costs of previous routine maintenance.



Nicknamed the "Blue Goose," this LAKOS manifold system handles up to 18,000 U.S. gpm (4,088 m³/hr). Separated solids are bled continuously into an open trough via a manual pinch valve. Plans are scheduled, however, to install LAKOS heavy-duty bleed-purge hardware.

continued on reverse

Installed on the full-stream flow from California Steel's cooling towers to the hot strip mill, the LAKOS Separators: (1) discharge directly to a series of low pressure cooling nozzles and (2) feed a system of as many as five high-pressure pumps which likewise feed high pressure cooling nozzles. The improved nozzle life and reduced incidence of plugging helps eliminate uneven spray pattern and promotes better roll cooling and forming.

Others who have also used LAKOS Separators:

SEATTLE STEEL; Seattle, WA
BETHLEHEM STEEL; Bethlehem, PA; Steelton, PA; Sparrows Point, MD; Burns Harbor, IN
LONE STAR STEEL; Lone Star, TX
CALIFORNIA STEEL (ex-Kaiser Steel); Fontana, CA; U.S. Steel; Pittsburgh, CA; Clairton, PA; Lorain, OH; McKeesport, PA; Fairfield, AL
MCCLOUTH STEEL; Trenton, MI
LTV STEEL; Aliquippa, PA; Cambell, OH; Canton, OH
WHEELING-PITTSBURGH STEEL; Munson, PA
THOMAS STEEL; Lemont, IL
ALLEGHENY-LIDLUM STEEL; Pittsburgh, PA
ATLANTIC STEEL; Atlanta, GA
CABOT CORPORATION; Kokomo, IN
NIPPON STEEL; Yawata Works, Japan; Kimuzu Works, Japan
DAIDO STEEL; Nagoya, Japan
SIDMAR; Ghent, Belgium
DONG KUK STEEL; Busan, Korea; Ichon, Korea
SOUTHERN IRON & STEEL; Penang, Malaysia
TAIWAN STEEL; Taipei, Taiwan
HOESCH @ DORTMAND; West Germany
KRUPP @ WERDOHL; West Germany
THYSSEN @ DUIBURG; West Germany
FORGES d'ALLEVARD; Gienode, France
CREUSOT LOIRE; Le Creusot, France
SKF STEEL; Haellefors, Sweden



From the main discharge line of the LAKOS Separators, as many as five high pressure pumps draw solids-free water to feed high pressure nozzles. This protects both the pumps and nozzles from excessive wear.

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