**SUCCESS STORY** // Ecopetrol's Reficar Refinery Expansion

# One of Colombia's Major Refineries Doubles Output; Defeats Corrosion



#### **PROJECT WINS**

Ecopetrol's Reficar refinery, located in Cartagena, Colombia, was over 60 years old when their expansion project kicked off. In order to meet their goal of doubling the size and output of the refinery (taking output from 90,000 to 180,000 barrels per day), Ecopetrol knew they had to implement seriously corrosion-resistant measures in the original facility as well as in the planned expansion.

In a climate particularly inviting to corrosion, Ecopetrol had developed their own approaches to pipe support challenges, including the creation of tapered concrete bases and round bars designed to result in runoff of humidity and rain water. However, this also created a point load and metal-to-metal contact, compromising pipe system integrity. They found the answer they needed in APP's ProTek Composite Wear Pads. Over 45,000 wear pads were assembled in Beaumont, TX and delivered to the Cartagena facility, along with on-site Spanish-language installation training and customer service by the APP team.

#### THE BIG PICTURE

CLIENT	CB&I Ecopetrol
INDUSTRY	Refining
PRODUCT	ProTek Composite Wear Pads

- » State-owned Ecopetrol (part of the Fortune 500 Global) is the largest petroleum company in Colombia and one of four principal petroleum companies in Latin America.
- » The new configuration, including hydrocracking, hydrotreating, catalytic reforming, and coking capacity, enabled the refinery to handle up to 90,000 barrels per day (bpd) of acidic crudes and 180,000 barrels total.
- » APP provided 45,000+ ProTek Wear Pads to support the facility's expansion and replace legacy solutions.

## AN EXPANDED FACILITY CALLED FOR TOUGH, CORROSION-RESISTANT MEASURES

Ecopetrol's Reficar, one of Colombia's largest refineries, faces serious temperature and climate issues—poised at the edge of jungle terrain and bordering coastal waters,

it's a perfect storm of corrosion conditions. The heat, humidity, and extreme marine conditions converged to create long-running corrosion-related problems for this facility, which was built in 1950. Ecopetrol planned to simultaneously complete their expansion project while performing improvements on existing facilities.

Ecopetrol was ready to make a significant investment in infrastructure in order to increase output and streamline operations.

### THE APP ANSWER

APP looked beyond the plant's physical needs for expansion, providing Spanish-language installation support that would ensure the ProTek Wear Pad's lasting success.

- » Wear pads represented a corrosion solution that counteracted the "continual painting" of the facility that was one legacy measure to counteract oxidation.
- » APP delivered Spanish-language installation literature, presentations, and video instructions to ensure positive installation outcomes.
- » APP performed on-site Spanish-language installation and inspection training for 200+ Reficar employees.



45,000+

PROTEK WEAR PADS INSTALLED 200+

REFICAR EMPLOYEES PROVIDED WITH SPANISH-LANGUAGE INSTALLATION TRAINING

DOUBLED

ECOPETROL REFICAR'S OUTPUT