

Borotec®

Moderate resid Fluid Catalytic Cracking (FCC) catalyst improves unit performance

BASF's Borotec® catalyst uses novel Boron-Based Technology (BBT) to provide higher conversion and metals tolerance for a moderate resid feedstock delivering a profitability improvement of \$0.23/bbl

Introduction

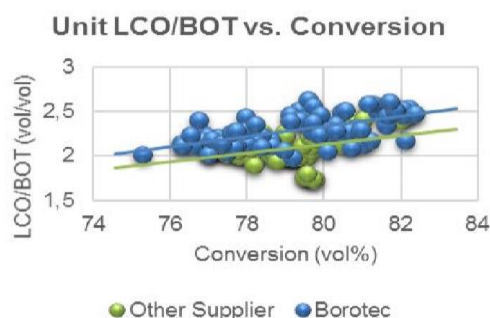
An FCC unit processing a moderate resid feedstock with a concarbon of 1 wt % requires good metals tolerance with increased liquid yields.

Results

Borotec was compared with another supplier's premium bottoms-upgrading technology. In the commercial trial, Borotec delivered good metals tolerance and improved liquid yields. Compared to the competitor's catalyst, Borotec enabled the refinery to:

- Improve coke selectivity
- Improve activity retention, at similar vanadium and sodium levels
- Improve bottoms upgrading
- Improve propylene and butylene yields (after catalyst optimization with a light olefins additive)
- Achieve \$0.23/bbl unit profitability improvement compared to the competitor's catalyst

Figure 1. Borotec showed higher LCO/BOT levels compared with competitor's catalyst at same conversion



Post Audit on Borotec at constant coke*

	Before	After**	Delta
Conversion, wt %	80	80.5	+0.5
LPG, wt %	16.9	17.0	+0.1
Gasoline, wt %	54.0	54.5	+0.5
LCO, wt %	14.2	13.9	-0.3
Slurry, wt %	5.9	5.6	-0.3
LCO/Slurry, wt/wt	2.40	2.48	+0.08

*Yields normalized for constant operating conditions

**Prior to light olefins additive

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