Converter®

Fluid Catalytic Cracking (FCC) co-catalyst improves profitability

Gasoline production increased and slurry yields decreased at constant regenerator temperature during peak season with addition of Converter

Introduction

BASF designed Converter, a part of the Distributed Matrix Structures (DMS) technology, to give refiners a flexible tool for reducing slurry while maintaining FCC feed rate at maximum throughput.

An FCC unit replacing 10% of its fresh catalyst with Converter hopes to improve bottoms upgrading and coke selectivity all while maintaining regenerator temperatures and maximum throughput.

Results

The performance of Converter co-catalyst exceeded customer expectations by:

▪ Allowing the unit to maintain maximum conversion at maximum feed rate

▪ Achieving higher-value conversion even at constant regenerator temperatures

▪ Satisfying the unit’s needs when combined with any type of FCC catalyst

Figure 1. Converter shows increased conversion

<table>
<thead>
<tr>
<th>Commercial Trial Data for Converter</th>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relative fresh catalyst feed rate</td>
<td>1.0</td>
<td>1.03</td>
</tr>
<tr>
<td>Gasoline yield, vol % FF</td>
<td>Base</td>
<td>+1.3</td>
</tr>
<tr>
<td>Slurry yield, vol % FF</td>
<td>Base</td>
<td>-0.9</td>
</tr>
<tr>
<td>Regenerator temperature, ºF</td>
<td>1368</td>
<td>1365</td>
</tr>
<tr>
<td>Ecatal metals (ppm) Ni, V, Fe</td>
<td>1400/1600/1300</td>
<td>1400/1600/1500</td>
</tr>
</tbody>
</table>
About Us

BASF’s Catalysts division is the world’s leading supplier of environmental and process catalysts. The group offers exceptional expertise in the development of technologies that protect the air we breathe, produce the fuels that power our world and ensure efficient production of a wide variety of chemicals, plastics and other products, including advanced battery materials. By leveraging our industry-leading R&D platforms, passion for innovation and deep knowledge of precious and base metals, BASF’s Catalysts division develops unique, proprietary solutions that drive customer success.

BASF - We create chemistry

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