

Catalyst for CCR Naphtha Reforming

APPLICATION

Continuous Catalytic Regeneration (CCR) naphtha reforming, often referred to as the CCR reforming process, is a critical refining technology used in the petroleum industry to transform naphtha feedstocks into high-octane aromatic compounds, essential components of gasoline and petrochemical feedstocks. The process involves converting straight-run or hydrotreated naphtha, rich in C6-C11 paraffins and naphthene's, into reformate through a continuous moving-bed regenerative system. The process also co-produces hydrogen as a valuable by-product.

Continuous Catalytic Regeneration (CCR) is a cornerstone technology in modern refineries, offering high efficiency, reliability, and product quality. Its ability to continuously regenerate the catalyst ensures stable operations, maximizes reformate and hydrogen yields, and meets the demands of a growing petrochemical and fuels market.

DESCRIPTION

Delion offers two grades of catalyst for the CCR reforming process: low-density and high-density. The catalysts are easily adaptable to various operating conditions, allowing refiners to fine-tune the process to meet specific product demands. The key benefits of these catalysts include excellent performance, longevity of higher than 4.5 years, and operational advantages due to their high hydrothermal stability and exceptionally low attrition resistance. The catalysts perform effectively across a wide range of feedstocks, including heavier and sulfur-rich naphtha's, providing refiners with greater feedstock flexibility.

PHYSICAL & CHEMICAL PROPERTIES

Parameter	Unit	Specification
Form	-	sphere
Color	-	light grey
Mean diameter	mm	1.6
Bulk Density	g/ml	0.66 ±0.02
		0.588±0.02
Crushing Strength	N/cm	>45
Al ₂ O ₃	%	>99.5
Active component		Pt

PROCESS CONDITIONS & PERFORMANCE

Element	Unit	Specification
Pressure	barg	2.5-3.5
Temperature	°C	480-520
WHSV	kg _{feed} /kg _{catalyst} ×h	1.0-3.0
H ₂ /HC	mol/mol	1.3-1.8
Catalyst life	years	>4.5
Dust content	%/day	0.004-0.008