VIRIDIS CHEMICALS PRIVATE LIMITED

MAKE IN INDIA

VCRU CAT® Catalyst Series

For Semi-Regenerative (SR) Fixed-Bed Reformer Units

High activity, stability, and yield for long on-stream cycles between regenerations

Product overview

VCRU CAT®27 and VCRU CAT®28 are bimetallic reforming catalysts engineered for semi-regenerative catalytic reforming of straight-run or hydrotreated naphtha. They deliver high octane reformate and hydrogen with strong stability at elevated severity, supporting predictable run-length and smooth regeneration. While VCRU CAT®27 is a balanced composition that is well suited for N+2A > 55 vol% – typical feeds, VCRU CAT®28 is an imbalanced composition designed for N+2A ~ 40 to 55 vol% which are considered tougher feeds.

Typical applications

- Semi-regenerative / fixed-bed reformer units
- Continuous operation between regenerations (long cycle length targets)
- High RON reformate, aromatics production, and hydrogen generation

Key advantages

- Improved stability vs. monometallic Pt catalysts (better metal function balance)
- High C_5+ reformate yield at target octane (lower over-cracking at equal severity)
- Lower sensitivity to severity changes; smoother operation during feed variability
- Lower delta-coke formation potential and reliable regeneration response
- Supports chloride management strategy for stable acidity and selectivity
- Designed for robust mechanical integrity and low attrition during loading

Typical unit outcomes

Reformate octane (RONC)	97 to 98
C_5+ liquid yield	85 to 90 wt%
Net H_2 yield	2.3 to 2.6 wt%
Cycle length (between regens)	24 to 30 months
Catalyst Life (guaranteed)	8 years (min)

Technical support

- Charge grading guidance, loading supervision, and start-up/activation checklist
- Operating window optimization (severity vs. yield, chloride and water balance)
- Regeneration protocol recommendations and post-regeneration performance tracking
- Detailed reactor models to help optimize the unit's performance and always enable peak efficacy

Catalyst specifications

Catalyst form	Trilobes
Nominal size	1.4 to 1.6 mm
Support	Modified Mixed Metal Oxide
Metal	Platinum based
Low Pressure Drop	< 0.5 kg/cm²
Catalyst Loading Method	Sock Loading
Packing	50 Kg HDPE drums under inert blanket

Recommended Operating Window

Pressure	1.0 to 3.0 MPa
Reactor inlet T	485° to 520°C
LHSV	1 to 3 h^{-1}
H_2/HC	4 to 5
In-situ Regeneration Method	Air+N_2
Pre-sulfiding Method	DMDS
Chlorinating Method	C_2Cl_4

Feed & pretreatment checklist

Sulfur	< 0.5 ppmw
Nitrogen	< 0.5 ppmw
Water & Oxygenates	< 5 ppmw
Heavy Metals (As, Pb, Hg)	< 1 ppbw