

AMBERLYST™ CH28 Industrial Grade Palladium Doped Strongly Acidic Catalyst

Description

AMBERLYST CH28 is a bead form, macroreticular, sulphonic acid, palladium doped ion exchange resin developed particularly for heterogeneous catalysis.

This catalyst is specially suitable for the production of Methyl-Iso-Butyl-Ketone (MIBK) from acetone. An other application is the production of Tert-Amyl-Methyl-Ether (TAME) from FCC cracked Naphta (Etherol process). In both cases, the hydrogenation reaction, catalyzed by the palladium loaded on the resin, prevents the formation of higher condensation products.

Typical Properties

These properties are typical but do not constitute specifications.

Matrix	Macroreticular styrene DVB copolymer
Physical form	Opaque spherical beads
Ionic form as shipped	H ⁺
Palladium load	0.7% min (dry basis)
Concentration of acid sites	≥ 1.6 eq/L ^[1] (H ⁺ form) ≥ 4.8 eq/kg (H ⁺ form)
Moisture holding capacity ^[1]	52 to 58% (H ⁺ form)
Shipping weight	790 g/L (49.3 lbs/ft ³)
Particle size	
Harmonic mean size	0.850 to 1.050 mm
Uniformity coefficient	≤ 1.4
Fines content ^[1]	< 0.710 mm: 2.0% max
Coarse beads	> 1.180 mm: 15.0% max
Nitrogen BET	
Surface area	36 m ² /g
Average pore diameter	260 Å
Total pore volume	0.20 ml/g
Shrinkage	Water to acetone: 14% Water to MIBK: 19%

^[1] Contractual value

Suggested Operating Conditions

Maximum operating temperature	130°C (265°F)
Minimum bed depth	1000 mm (39 inches)
Operating flow rate	1 to 8 BV*/h (LHSV)
Pressure drop limitation	1 bar (15 psig) across the bed

* 1 BV = 1 m³ solution per m³ resin

Hydraulic Characteristics

Figure 1 shows the bed expansion of AMBERLYST CH28 as a function of backwash flow rate and water temperature.

Figure 1: Bed expansion

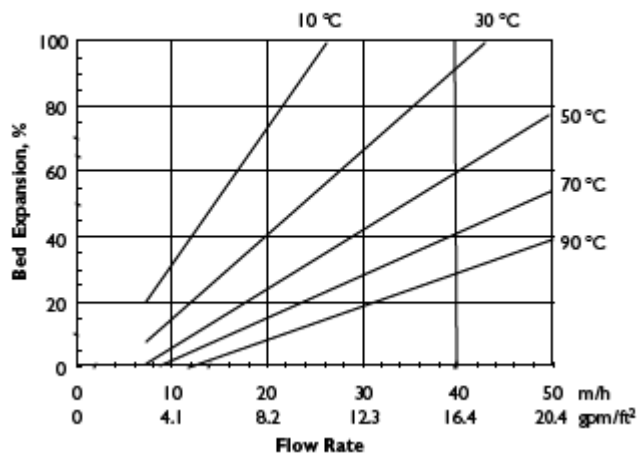
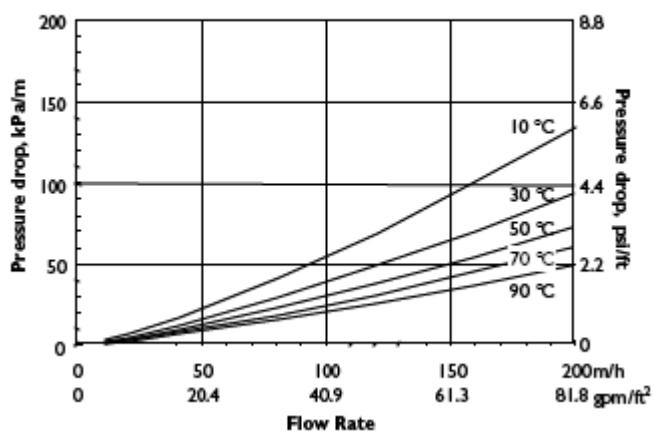


Figure 2 shows the pressure drop data for AMBERLYST CH28 as a function of service flow rate and water temperature.

Figure 2: Pressure drop



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