

Design case IR 2018

Company:	Ancap
Unit:	R2R - Vapor recovery
Item:	408-E
Service:	Butane caustic extraction treater

Column characteristics (1)

Existing or in design:	Existing, to be replaced
Inside diameter	813
Internal type:	Packing
Packing type and material	Random CS (1)
Number of beds	1 (1)

Packing characteristics

Location			Bottom of bed
Theoretical plates			1, minimum (1)
Bed height			(1)
Pressure			16.5
LPG temperature			35.0
B U T A N E	Mass rate	kg/h	9137
	MW	kg/kmol	56.95
	Molal rate	kmol/h	160.4
	Density (PT)	kg/m3	568.9
	Volume rate (PT)	m3/h	16.06
	Surface tension	dyne/cm	10.40
	H2S content	wppm	nil
	Mercaptan content	wppm	175 (2)
N a O H	Density (PT)	kg/m3	939.6
	Surface tension	dyne/cm	77.74
Overall column pressure drop			0.1

Notes

- (1) By vendor. Packing vendor to guarantee satisfactory operation of the packing bed and distributors between 50 % and 100 % of the above flowrates.
- (2) Reference values. Vendor is asked to advise.

Design case IR 2018

Company:	Ancap
Unit:	R2R - Vapor recovery
Item:	409-E
Service:	Propane caustic extraction treater

Column characteristics (1)

Existing or in design:	Existing, to be replaced
Inside diameter	813
Internal type:	Packing
Packing type and material	Random CS (1)
Number of beds	1 (1)

Packing characteristics

Location			Bottom of bed
Theoretical plates			1, minimum (1)
Bed height			(1)
Pressure			21.0
LPG temperature			35.0
P R O P A N E	Mass rate	kg/h	6247
	MW	kg/kmol	45.87
	Molal rate	kmol/h	136.2
	Density (PT)	kg/m ³	507.8
	Volume rate (PT)	m ³ /h	12.30
	Surface tension	dyne/cm	6.52
	H ₂ S content	wppm	< 50 (2)
	Mercaptan content	wppm	65 (2)
N a O H	Density (PT)	kg/m ³	939.6
	Surface tension	dyne/cm	77.74
Overall column pressure drop			0.1

Notes

- (1) By vendor. Packing vendor to guarantee satisfactory operation of the packing bed and distributors between 50 % and 100 % of the above flowrates.
- (2) Reference values. Vendor is asked to advise.