

## CASE HISTORY 10 — LANPAC®

# Methanol Recovery Doubled After Pall Rings Replaced

Feed rate doubled, flooding eliminated, and BOD permit violation resolved after replacing 2" Pall rings with LANPAC 3.5".

### APPLICATION

Methanol/water distillation, pharmaceutical plant

### PREVIOUS PACKING

2" Pall rings

### RESULT

Feed rate doubled; flooding eliminated

## ◆ THE PROBLEM

A major pharmaceutical manufacturer in the northeast was having difficulties with its methanol/water distillation column. The feed rate to the column had increased dramatically, creating a capacity problem. The tower was filled with 2" Pall rings which were not performing to the desired efficiency — the column had reached a flooding condition.

With excess flow diverted straight to the plant's wastewater treatment facility, bypassing the column, two serious problems resulted: methanol was lost from the process, requiring the plant to purchase additional methanol as a replacement; and the diverted flow raised the biological oxygen demand (BOD) of the wastewater stream beyond the facility's capacity to treat it, forcing an unpermitted effluent discharge into the sewer.

*The results proved better than expected: feed rate doubled, pressure drop decreased, mass transfer efficiency increased — and the BOD permit violation was resolved.*

## ◆ MEETING THE REQUIREMENTS

The plant's process engineering group called upon Lantec to find a cost-effective solution. Process parameters were reviewed, including the expected top and bottom concentrations in the column. Lantec recommended LANPAC 3.5" media, and the recommendation was accepted.

### PRODUCT

LANPAC

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### CAPACITY IMPROVEMENT

**2x**

Feed rate doubled after replacing Pall rings with LANPAC 3.5"; pressure drop decreased and mass transfer efficiency increased

### APPLICATION CONTEXT

Distillation

Methanol recovery

Pharmaceutical

Flooding

BOD compliance

### NOTE

Performance backed by Lantec 100% warranty.



*2.3" Lanpac and 3.5" Lanpac*

The results exceeded expectations. Feed rate was doubled, pressure drop through the tower decreased, and mass transfer efficiency increased. More methanol is being recovered and returned to the process stream. With no further need to bypass the distillation column, the BOD effluent returned to below permitted discharge limits. Production costs were reduced and a major environmental compliance problem was avoided.