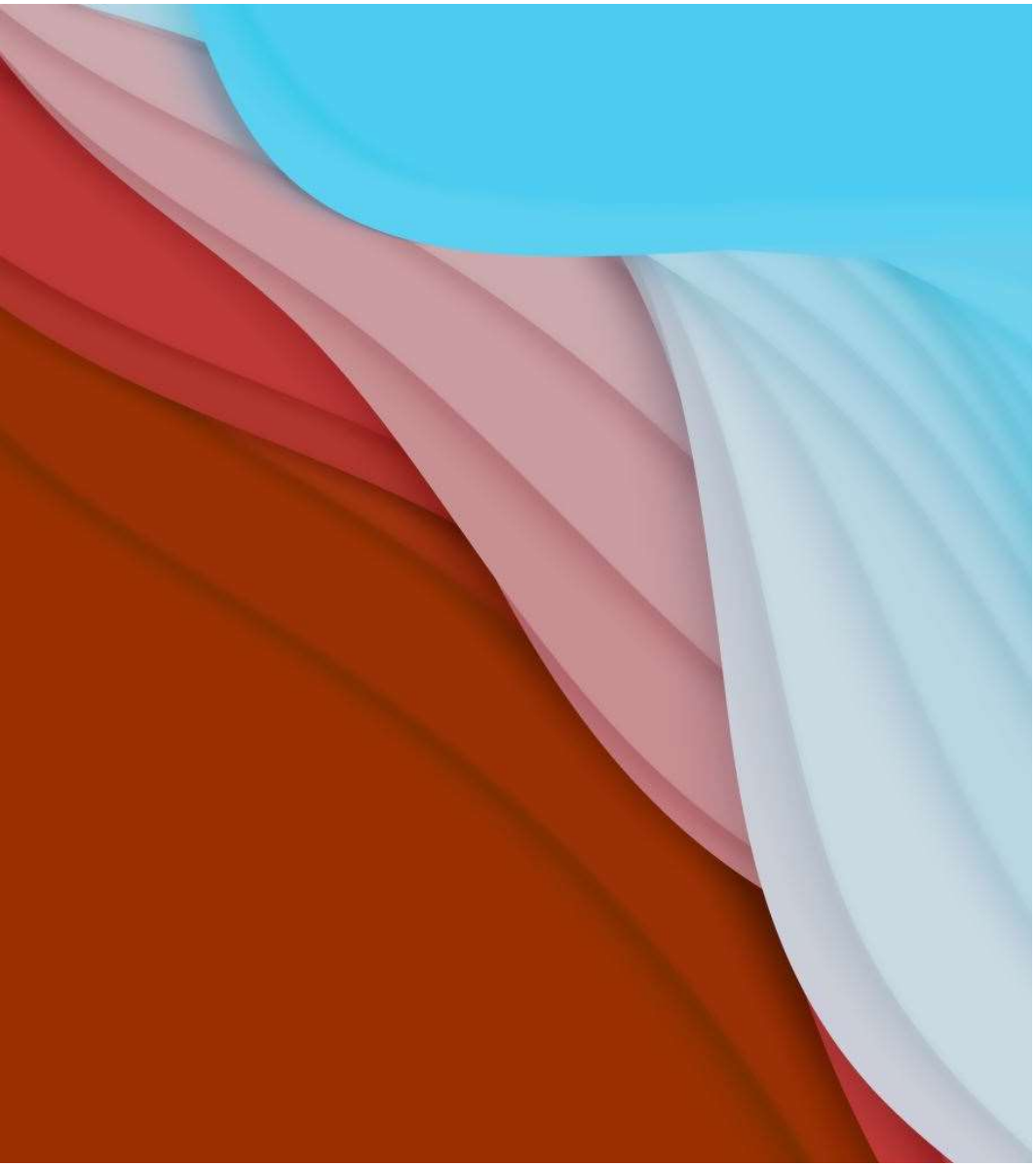


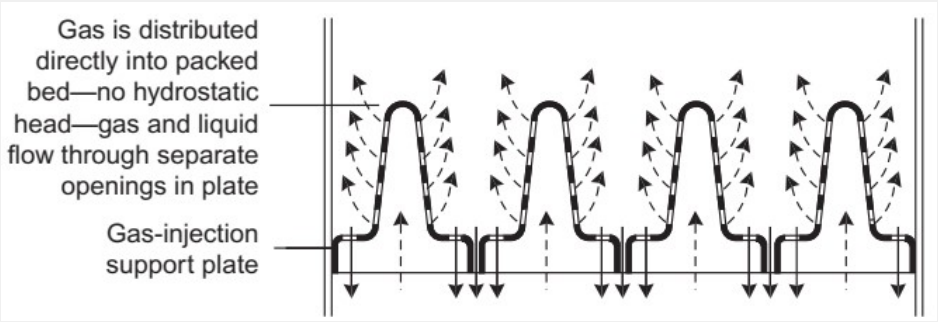
CEN416
PROCESS DESIGN II

COLUMN INTERNALS

The internal fittings in a packed column are simpler than those in a plate column but must be carefully designed to ensure good performance.

As a general rule, the standard fittings developed by the packing manufacturers should be specified.

Packing support

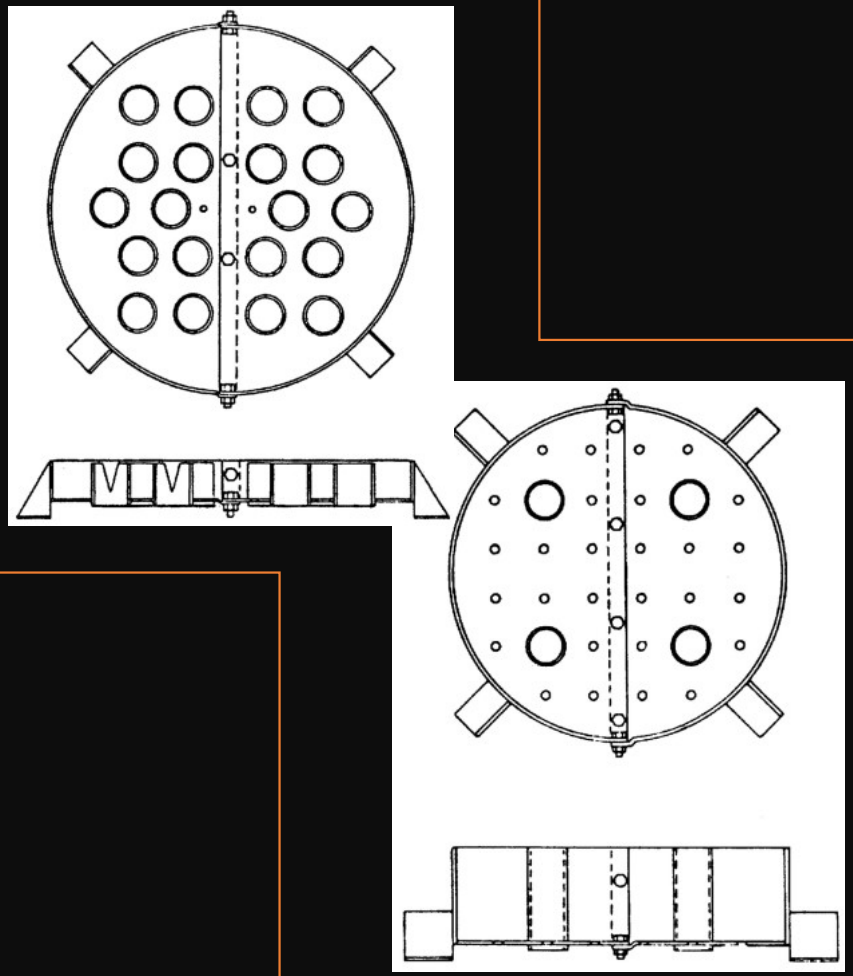


Packing support

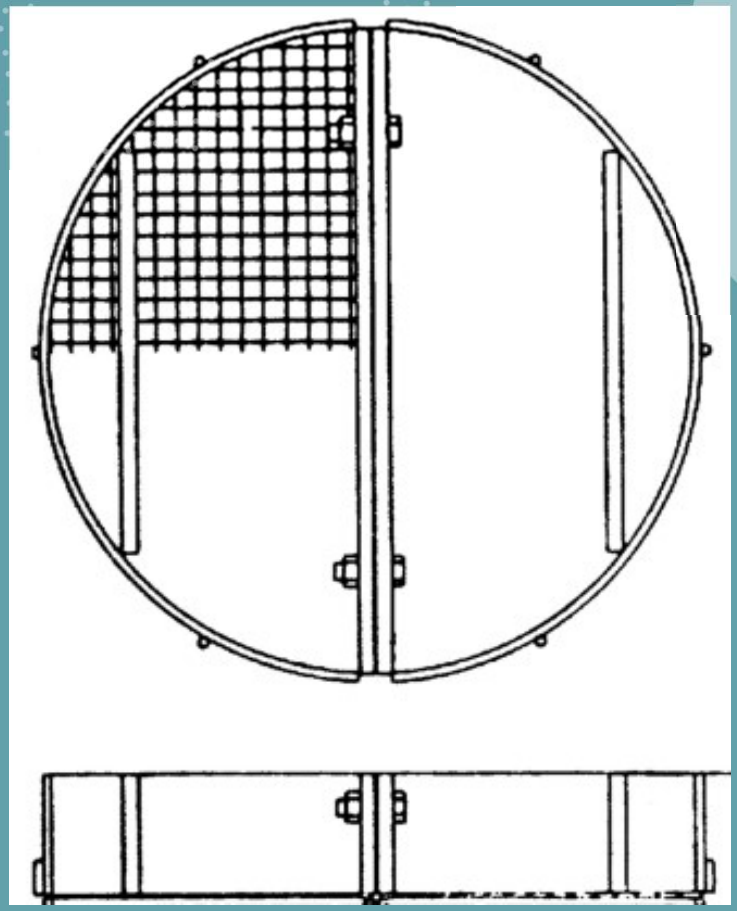
The function of the support plate is to carry the weight of the wet packing, while allowing free passage of the gas and liquid.

The best design of packing support is one in which gas inlets are provided above the level where the liquid flows from the bed.

Liquid distributors



Hold-down plates



- At high gas rates, the top layers of packing can be fluidized.
- Under these conditions ceramic packing can break up and the pieces filter down the column and plug the packing.
- Hold-down plates are used with ceramic packing to weigh down the top layers and prevent fluidization.

REFERENCES

1. Sinnot, R.K. 1999, Coulson's & Richardson's Chemical Engineering, Volume 6, Chemical Engineering Design, ButterWorth Heinemann, Oxford.

2. Turton R., Bailie R.C., Whitin W.C., Shaeiwitz J.A. 1998, Analysis, Synthesis and Design of Chemical Processes, Prentice Hall, New Jersey.