

Support Plate, Support Grid, Bed Limiter & Hold Down Grid



CHEM GROUP

AZAR ENERGY Co.

Packed Tower Internals

Columns packed with either random or structured packing must also include several additional key internal components that are necessary for the packing to function. These internals include packing support, hold down plates and all of which must be designed to suit the specific service requirements. Azar Energy has developed comprehensive engineering standards for the design and manufacture of high performance column internals based upon many years of installation experience and industry feedback. These standards are applied to custom design and manufactured internals to suit individual process and installation requirements resulting in consistent and reliable column performance.

Contents

- Support Plate
- Support Grid
- Bed Limiter
- Hold Down Grid

Support Plate

Support plate is a gas Injection packing support plate for use in random packed columns. The multi-Beams perforated with slots are fabricated in sections to pass through the vessel manways and bolt together inside the column. Support plate provides approximately 100% open area for the gas flow. The support plate should be supported on Wall clips or annular ring welded to the inside vessel wall. It is recommended that Clips be used on smaller column up to 600 mm diameter as not to effect the gas and liquid flow rates.



Support Grid

Every packed bed will need a support. Two critical factors to be considered in the design of a packing support are:

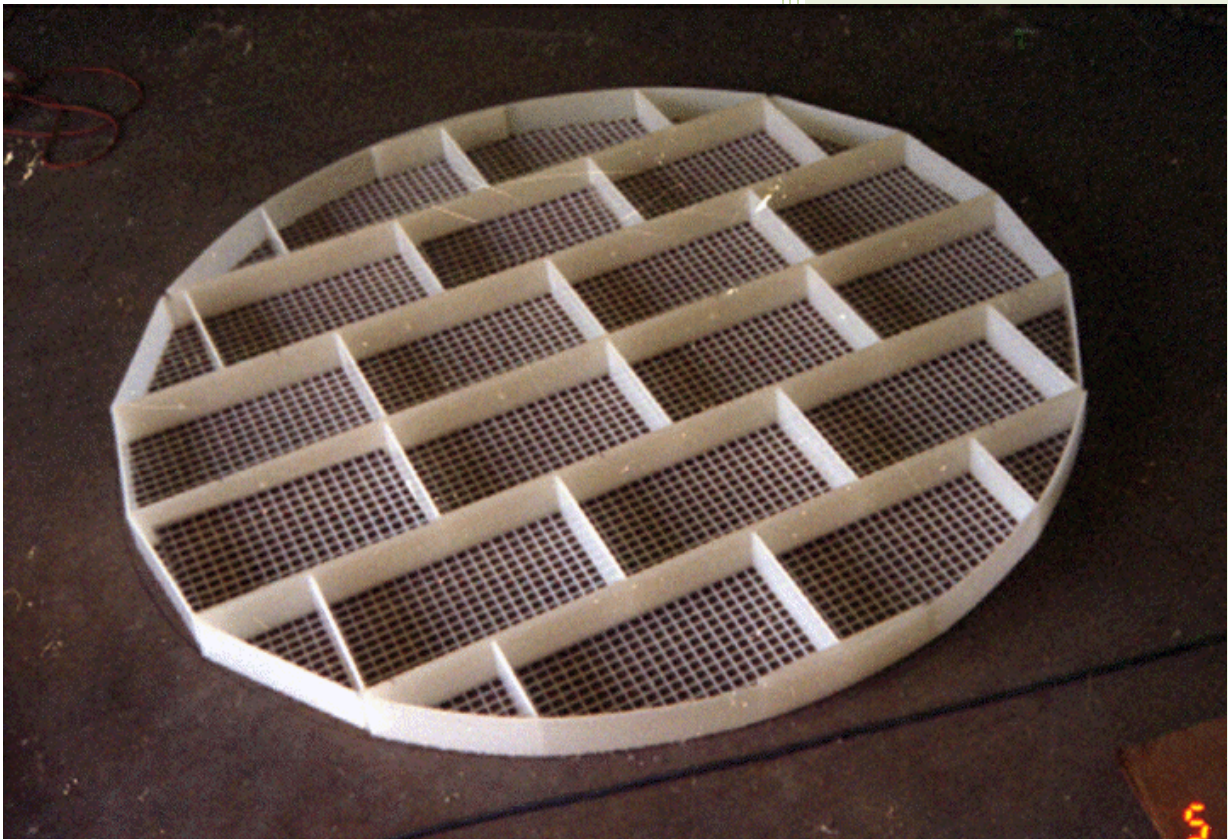
- It must physically retain and support the packed bed under operating conditions in the column including but not limited to packing type and size, design temperature, bed depth, operating liquid holdup, material of construction, corrosion allowance, material buildup in the bed and surge conditions.
- It must have a high percentage of free area to allow unrestricted counter-current flow of down coming liquid and upward flowing vapor

The open grid type structure of the Model 802 support grid allows free and uniform passage of the liquid and vapor so the packing capacity is not limited.



Bed Limiter

To restrict random packed bed movement in service, a suitably designed limiter or screen should be fitted to the top of each packed bed. Beds of random packing require separate structure consisting of a suitably sized wire screen attached to grid or frame. This must be secured to the vessel wall immediately above the packed bed to ensure that the top of the packing remains level.



Hold Down Grid

Hold down Grids for structured packing are recommended when there is the potential for packing displacement during upset conditions. Many columns operate at a low pressure drop and a low percentage of flood and are not prone to sudden vapor surges.

These hold down grids rest on support rings or gussets welded to the column shell. For columns over 3 m ID, additional supports and major beams may be required.

