Delta Cooling Towers, Inc.

41 Pine Street · P.O. Box 315 · Rockaway, NJ 07866-0315
Phone: 973.586.2201 · Fax: 973.586.2243
Website: http://www.deltacooling.com

Delta-Pak® Structured Packing.

The PVC **Delta-Pak®** structured packing is a proprietary product, which offers unusually low air static pressure losses and provides high mass transfer efficiency.

The honeycomb-like construction allows for high air velocities for applications that demand it, and defers water loading "flooding points" well beyond typical maximum levels of random type packings.

Delta-Pak® structured packing is installed in homogeneous circular layers of nominal 12" and 6" high layers. The packing layers only weight about 2 lb/cu. ft. and can be easily handled.

Delta-Pak® structured packing can be cleaned chemically, as long as the limits of PVC corrosion and chemical resistance is respected.

If replacement of **Delta-Pak®** packing becomes necessary, the layers can be removed through the top of the air stripper column. The water distribution system can be removed to allow for packing removal. When the air stripper column is supplied as flanged sections, each packed section can be disassembled and lowered for easy access at grade level. The packing layers can be compressed in the radial direction if tight clearances are encountered, and will "spring back" to its original shape.

Do not step directly on the packing surface. Crushing of the edges of the PVC corrugations will inhibit proper air flow and water distribution, and as a result reduce performance.

If it is necessary to stand on the packing surface use a piece of plywood or similar protection to distribute weight over a greater surface. Maximum weight distribution is 80 lbs/sq. ft.

Do not stand on any packing inside a stripping tower unless it is absolutely necessary and unless proper judgment is exercised regarding the supporting capability of the packing.

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Packing. **Delta-Pak**®, used in all standard stripper models, is a high performance structured packing constructed of Type 1 PVC material protected against UV degradation.

Applicable data below is for air - water atmospheric system:

Surface area:	90 sq. ft./cu.ft.
Void space:	Higher than 98%
Open cross-section:	Higher than 98%
Maximum air flow before flooding, at 20 gpm/sq.ft.:	750 scfm/sq.ft. or higher
Static pressure loss at 20 gpm/sq.ft. and 500 scfm/ sq.ft. air flow:	0.10 in. W.C./ft. or lower
Orientation of corrugation:	Vertical ("see - through")
Nominal corrugation size:	Approx. 3/4 in.
"Channelling" characteristics:	No channeling occurs. Packing construction prevents any radial transfer of mass, due to its spirally wound configuration. Transfer in tangential direction is negligible. No redistribution devices are required.
"Clogging" and "fouling" characteristics:	The absence of any horizontally orientated surfaces reduces accumulation of precipitates and deposition of suspended solids. Most solids including precipitates pass freely through vertical corrugations.
Standard packing layer heights:	12.6 in. and 6.3 in.

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DELTA-PAK® STRUCTURED PACKING BENEFITS

HIGH IRON OR CALCIUM CONTENT

Concentrations of dissolved iron in ground water (in excess of 2 mg/l) has the potential to foul process equipment. High iron content water will combine with dissolved oxygen and precipitate, causing pumps, infiltration galleries, feed lines and packing media to foul.

Precipitation occurs primarily at the nozzle or inlet distribution area of an air stripper, where water mixes with the counter flowing air stream. Iron and calcium precipitate accumulates and hardens on all surfaces of packing. This precipitate will subsequently need to be removed, which is most effectively and economically removed in place. When properly cleaned, the particulate which sloughs off upper sections of random packings and may tend to "hang up" at lower levels of the packing bed. This accumulation, if not managed, can lead towards performance failure, media failure or even worse tower structural failure.

Delta-Pak® structured packing, since it does not have horizontal or angled surfaces, resists iron precipitate accumulation and therefore will operate efficiently for much longer periods between requiring chemical cleaning. In past applications **Delta-Pak**® structured packing has successfully performed four to six times longer than random packing it has replaced before having to be cleaned. The particulate which sloughs off the packing will flush straight through the media to the sump.

Delta-Pak® structured packing is recommended for applications where high iron or calcium levels are present in the process flow. Although the degree of fouling and frequency of required cleaning is site specific, it is generally recommended that
Delta-Pak® structured packing be used for iron or calcium levels above 2 mg/l.