Honeycomb Tip Seal

Tip clearance between the fan blade and inside of the fan cylinder or fan ring is critical to proper axial flow fan performance. If close tip clearances are not maintained, a loss of performance will be noted, in pressure capabilities and airflow. The primary reason for close tip clearance is to minimize air loss or leakage around the tip; known as a tip vortex.

Exit air will be at a higher pressure than incoming air due to the work expended by the fan. Note that the blade performs most of the work in the outer portion of the airfoil. If a leakage path (or clearance) exist, the air will seek the path of least resistance and bypass the tip, causing a vortex and loss of performance. Tip clearances can be reduced with our tip seal honeycomb, typical performance improvements of 5% to 10% can be achieved with proper clearance.

API-661 recommended tip clearances for smaller (16 ft. and less) diameter fans as follows:

Fan diameter	Minimum	Maximum
3 ft. through 9ft.	1/4 in.	1/2 in.
9 ft. through 11ft.	1/4 in.	5/8 in.
11 ft. through 16 ft.	1/4 in.	3/4 in.