# Window Operation Methods

Another important consideration is how the windows operate, because some operating types have lower air leakage rates than others, which will improve the building’s energy efficiency. Traditional operating types include:

* Awning. Hinged at the top and open outward. Because the sash closes by pressing against the frame, they generally have lower air leakage rates than sliding windows.
* Casement. Hinged at the sides. Like awning windows, they generally have lower air leakage rates than sliding windows because the sash closes by pressing against the frame.
* Fixed. Fixed panes that don't open. When installed properly they're airtight, but are not suitable in places where window ventilation is desired.
* Hopper. Hinged at the bottom and open inward. Like both awning and casement, they generally have lower air leakage rates because the sash closes by pressing against the frame.
* Single- and double-hung. Both sashes slide vertically in a double-hung window. Only the bottom sash slides upward in a single-hung window. These sliding windows generally have higher air leakage rates than projecting or hinged windows.
* Single- and double-sliding. Both sashes slide horizontally in a double-sliding window. Only one sash slides in a single-sliding window. Like single- and double-hung windows, they generally have higher air leakage rates than projecting or hinged windows.

