Open Valleys:

The valley must be covered with a self-adhered underlayment that is a minimum of 36 inches wide. The self-adhered underlayment must meet ASTM D1970. Center the self-adhered underlayment in the valley, securing with only enough nails to hold it in place. All end laps should overlap 6 inches.

Install a minimum 26-gauge metal flashing that is at least 24 inches wide. Center the metal flashing in the valley. Trim the lower edge flush with the eave drip edge. If two or more pieces of flashing are required, lap the upper piece over the lower so that drainage will be carried over the joint, not into it. The overlap should be at least 12 inches and fully bonded with ASTM D4586 roofing cement. Nails should be placed 8 to 12 inches apart, and 1 inch from the edge. Start on one side and work all the way up. Then return to nail the other side, pressing the flashing firmly into the valley at the same time.

It is recommended to snap a chalk line 3 inches on either side of the valley from top to bottom, diverging an 1/8 inch per foot. Install a bleeder shingle along the chalk lines, with the head lap away from the chalk line. Install with a standard nailing pattern. Install full shingles with the bottom corner to the edge of the bleeder shingle. Use the standard nailing pattern, except for the nail closest to the valley. Install this nail in the nail line of the bleeder below.

Roofing cement is not recommended or required with this application. Installing roofing cement can trap water at bleeder end joints if installed incorrectly. If roofing cement is installed under the bleeder shingles, it must be installed at or above the nail line.

Keep in mind, with certain roof pitches, running the book pattern from the bleeder can affect shingle offset. Shingle offset can be no less than 4 inches for correct installation.
Alternate method (If bleeder not installed) – one with /one without the bleeder (side-by-side)

It is recommended to snap a chalk line 3 inches on either side of the valley from top to bottom. Diverge an 1/8 inch per foot, top to bottom.

Install a 3 inch to 4 inch wide bed of ASTM D4586 roofing cement along the chalk line. The bed of roofing cement should be about 1/8 inch thick. Too much roofing cement can blister the shingles. The roofing cement prevents water from washing under the cut shingles, and provides wind resistance.

Install full shingles in a book like pattern, lining up the top corners with the chalk line. Install with the standard nailing pattern. Hold nails back at least 6 inches from the center line. Make sure there is an offset greater than 4 inches on the shingle below, and install with the standard nailing pattern. Hold nails back at least 6 inches from the centerline of the valley.

The corners must be clipped. Cut the top point of each shingle one to two inches back at a 45 degree angle. Clipping the corners will allow water traveling down the valley to be deflected back into the valley.

Note: This document supersedes any previous Owens Corning Technical Bulletin on this topic.