

## Stack and Rain Guard Requirements

The Northwest Clean Air Agency (NWCAA) requires that emissions from air pollution sources, including surface coating operations, exhaust through an unobstructed, vertical stack. The top of the stack must be 6 feet above the roof. The purpose of these requirements is to allow for upward dispersion of pollutants, thereby reducing impacts and odor nuisances. Stacks installed with rain guards must meet the unobstructed, vertical flow requirements.

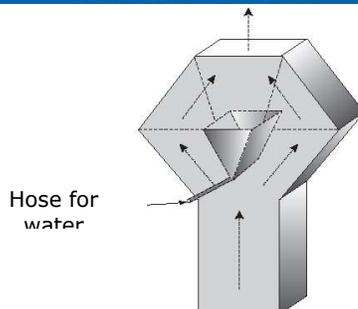
### Approved Rain Guards

The following rain guard designs have been approved by NWCAA. Other designs may be submitted to NWCAA for approval prior to construction and installation.

**On the back are two examples of unapproved designs.**

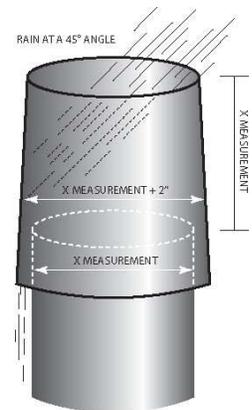
### Hexagonal Stack

This design diverts air around an internal wedge used to catch rain. A hose is connected to the bottom of the wedge which drains the collected rain water.



### Stack-in-a-Stack

This design is based on the principle that rain falls at an angle. The inner stack is surrounded by an outer stack with space between the two. Rain runs down the inside wall of the outer stack, instead of down the inside wall of the inner stack and into the paint booth.



# NWCAA- Approved Rain Guards

## Hinged Stacks

A hinged flapper damper opens when paint booth is on, and closes when fan is turned off. A booster fan may need to be installed to help push open the flaps.



This flapper and closes with the aid of a counter weight that slides back and forth on a rod for manual adjustment.

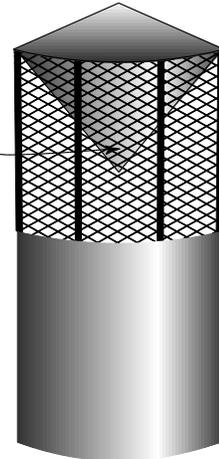
damper opens



## Inverted Cone Stack

Grating or brackets support the cone which is suspended above the stack opening.

CONE ANGLE  
60° TO 75°



## Where Can I Get Stack and Rain Guards?

Some companies specializing in sheet metal ducting also make stacks and rain guards. These companies can be found in the phone book, under "Sheet Metal Work."

## Two Examples of Unapproved Rain Guard & Stack



### Unacceptable Cap

Stacks must provide for unobstructed, upward, vertical flow. This cap does not allow this to occur.



### "Goose Neck" Stack Not Acceptable

This stack does not allow for an unobstructed, upward, vertical flow.



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