



Building Department Newsletter

June 2012

Hanger/Connector and Pressure Treated Lumber

Special points of interest:

- Hanger/Connector and Pressure Treated Lumber
- Local Stormwater Permit
- Fixture Trap Arm Distance

Let's head off a future possible problem. We've been noticing more and more TJI floor systems in crawl spaces being installed with top flange hangers. The new Pressure Treated (PT) lumber that's most commonly used in our area is very corrosive to metal. **Any** such metal (i.e. fasteners and hangers/connectors) that are in contact with PT lumber is required to have a corrosion protective coating.

The most effective corrosion resistance material is stainless steel which is more expensive and sometimes hard to obtain. The ASTM zinc-coating (corrosion protection) requirement for fasteners is ASTM A153 and connectors is ASTM A123 or hot-dip galvanized (HDG).

There are several variables to be considered when choosing the correct hanger/connector to be used. The environment will determine the most appropriate type of corrosive finish needed when using PT lumber. Your supplier of PT lumber should be able to help you determine the proper fasteners along with hanger/connectors for their intended use. The following are just some suggested variables that you should consider.

Evaluate what type of treated wood you will be using (there are several.) Determine the environment in which the PT wood and hanger/connector will be installed.

Interior Dry

Exterior Dry or Wet

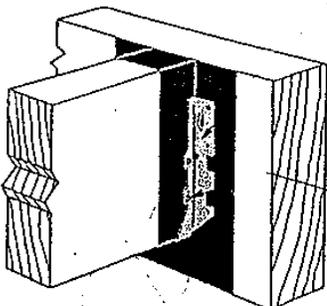
High Exposure

Uncertain

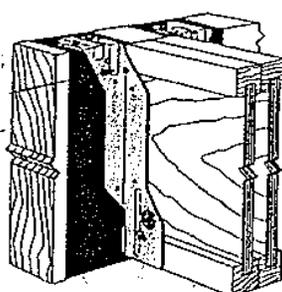
The industry standard recommends the installation of an asphaltic barrier type membrane system when using hanger/connectors for interior or exterior conditions. Their testing showed that a barrier membrane gave adequate protection under certain conditions. The installer needs to determine which membrane system will perform best for the conditions.

The sketches below represent a few of the recommended locations where the barrier membrane system might be installed for interior, dry use.

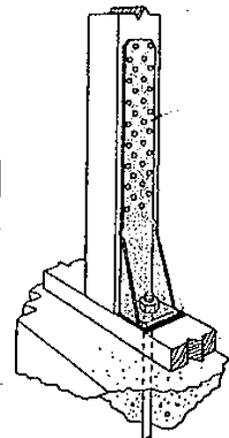
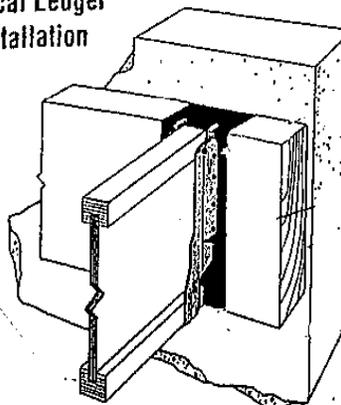
Typical Hanger Installation with Solid Sawn Wood



Typical Hanger Installation with Composite Wood



Typical Ledger Installation



Typical Holdown Installation (Mudsill connector applications similar)

Local Stormwater Permit Required

Beginning August 1, 2012 most development projects that occur in Pullman will be required to apply for and receive a city of Pullman construction stormwater permit prior to breaking ground. New construction, remodels, demolition, grading and landscaping projects will now be classified based on the amount of ground disturbance that is expected to occur.

Project Type	Ground Disturbance	Permit Required?
Small Project	Less than 5,000 ft ²	NO
Medium Project	5,000 ft ² - 1 acre	YES
Large Project	1 acre or more	YES

Small Projects are assumed to be short-term and likely to cause minimal impact to the city's stormwater system or local waterways. Small projects will be responsible for providing appropriate erosion control measures but will not normally require a construction stormwater permit.

Medium Projects will require a local construction stormwater permit and will require an Erosion & Sedimentation Control (ESC) Plan to be submitted with the application. As a general rule, new construction of single-family residential homes will be considered Medium projects.

Large Projects will require a local construction stormwater permit and will be required to submit a Stormwater Site Plan (SSP) and Stormwater Pollution Prevention Plan (SWPPP) with the application. SSPs and SWPPPs that satisfy the requirements of the Washington State Construction Stormwater General Permit can also be used to satisfy the local SSP and SWPPP requirements, upon successful review by the city. Large project applicants are encouraged to contact the Washington State Department of Ecology to determine if coverage under the Construction Stormwater General Permit is also required. Information on the General Permit can be found at: <http://www.ecy.wa.gov/programs/wq/stormwater/construction/index.html>

The city's stormwater and erosion control expectations for development have not changed. The new local construction stormwater permit application and approval process will ensure that the city remains in compliance with its Municipal Stormwater Permit. The new permit was authorized by Pullman City Code 10.32, which can be viewed in its entirety on the city's website at www.pullman-wa.gov.

For more information, please contact Stormwater Services Program Manager Rob Buchert at (509) 338-3314 or rob.buchert@pullman-wa.gov.



Fixture Trap Arm Distance

We've noticed a few installations lately where the trap arm distance was either too long or too short, so we thought it would be a good time to revisit trap arm **minimum** and **maximum** distance. To determine the trap arm developed length, measure from the trap outlet to the inner edge of the vent opening.

With bathroom area increase and additional fixtures being installed the installation distance between fixtures and their protecting vent has become a concern.

There's been extensive research to determine the **maximum** allowed trap arm distance between the fixture trap and the protecting vent before the trap seal is compromised. The research discovered that a pipe grade installation of $\frac{1}{4}$ " per foot for the trap arm was necessary to prevent the trap weir from being installed higher than the vent opening. This grade resulted from the drainage pipe requirement for piping 3"

and smaller. The research showed that when the trap weir is above the vent opening it created an S trap condition (self siphoning), which does not protect the trap seal.

During the above research into trap arm distance it was discovered that a **minimum** horizontal trap arm length was just as important as the maximum when it came to maintaining the trap seal. A style of venting called "crown vent" used at that time was ineffective in preventing siphoning. The minimum trap arm distance was first introduced into the Uniform Plumbing Code in 1988. The UPC requires the minimum trap arm distance to be 2 times the diameter of the trap arm. The 2009 UPC introduced the minimum trap arm distance in table 10-1. The **minimum** trap arm distance indicated in table 10-1 is difficult to achieve when installing the clothes washer drain box and vent pipe within a single stud cavity (see drawing.)

