



Infill Panels For Stair Rails And Guardrail Systems



Panels using wire mesh provide yet another creative design option for fabricators

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Infill panels offer a reliable, fast, high quality and low cost method for security and safety applications. Woven wire mesh has many uses in all types of industries and provides the most economical means for complying with OSHA and model code regulations. This product may also be used in retrofitting existing stairways and guardrail systems to comply with current codes.

In the ornamental and miscellaneous metals industry, infill panels can be used in window guards, railing systems, barrier guards, and many miscellaneous applications. The product is also utilized in other industries such as aerospace, furniture, appliance, and food and beverage.

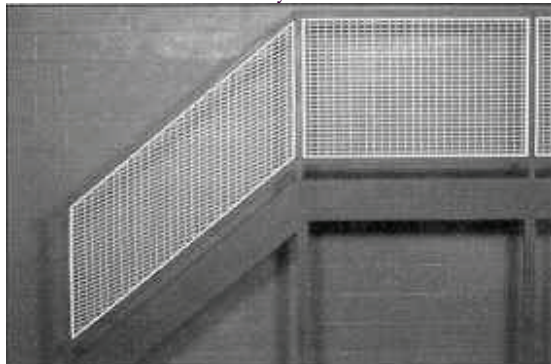
Fabricating these panels to meet the customer's application is the manufacturer's first priority. The following are the procedures our company follows on a daily basis:

Communication

When undertaking a project that uses infill panels, clear communication is very important. This includes working with architects, engineers, estimators, and installers on the design of the project. Good two-way interaction helps eliminate misconceptions and potential problems later in the project.

Project Understanding

Always make sure that all parties involved have a complete understanding of the items to be fabricated. This may be



Infill patterns are the ideal choice for many applications. An added plus is that they are economical and code compliant. Photo courtesy: Jesco-Wipco-Hoosier.

accomplished through a detailed blueprint. It is also very helpful if the manufacturer can provide a sample. Quite often during a project, a special color is required. Paint chips samples, along with the blueprints, help to insure that the proper finish is applied. Any specifications provided should be detailed and complete, and local building codes should be reviewed for the project. For a good glossary of terms related to this type of project, refer to NOMMA's *Metal Rail Manual, Second Edition*.

Delivery Date

Once the project is established, determine a target date to complete fabrication. As the details are reviewed and fabrication begins, the completion date should be constantly monitored. Allow time to transport and deliver material to the job site. There is nothing more distressing to a customer than a late delivery.

Verification

Verification is extremely important. Require customer approval of the blueprints and be sure to get a signature. In addition, field verify all checking dimensions and date all paperwork.

Revisions and change Orders

When revisions are required on the blueprints, manually verify and/or correct each item shown. Maintain records for each revision. Since our sales are national and international, we find this is essential to prevent miscommunication. Revisions which result in an increase or decrease of material may create a difference in the job cost. Calculations should be figured from the base bid to determine the

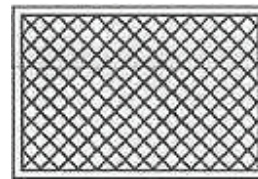


Figure 1: Woven Diamond

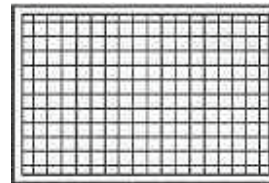


Figure 2: Woven Square

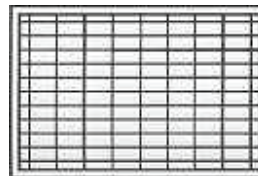


Figure 3: Woven Rectangular

change needed. For every revision, the customer/ contractor should furnish a change order to the fabricator, indicated the detailed price adjustment.

Packaging

To determine the proper packaging, review where the product is going. How are the items to be protected? This also must be specified in detail to reduce and aid in preventing damage. Panels should be separated in packaging to keep the finish intact. Packaging plays a very important role in the protection of the product.

Freight and Unloading Product

There are different ways to handle freight cost: prepaid, collect, third party, or customer pickup. You must also decide which party is to absorb the freight cost. We prefer to send

WIRE DIAMETER			
10	8	6	4
GAUGE			
DECIMAL			
.1345	.1644	.1943	.2242

Figure 4: While woven wire mesh is available in several sizes, 10 gauge is the most popular

shipments out with the freight prepaid. The freight cost is then added to the cost of the project. One reason for doing it this way is because the manufacturer can assume the responsibility for handling any potential problems such as damage due to shipping. This keeps the customer from having to deal with replacements and repairs, as well as adjustments for the freight claim.

Also, since 80 percent of our products ship prepaid, we feel that we have more favorable control over the carrier. This makes it easier to handle any problems that may arise. Dealing with established freight carriers has an advantage, resulting in lower freight costs. Using freight carriers who employ in-house inspec-

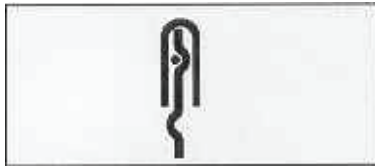


Figure 5: Hemmed Edge



Figure 6: Banded Edges



Figure 7: Double Channel

tors for damaged goods is especially beneficial, and helps to expedite payment for claims. By allowing the manufacturer to assume responsibility for shipping, the installer has less worries and down time.

The last detail of the freight is unloading the product. The installer is responsible for coordinating personnel to unload the product at the job site.

Material

The following types of woven wire mesh indicate the choices and flexibility available: Woven Diamond (Fig. 1), Woven Square (Fig. 2), and Woven Rectangular (Fig. 3). Gauge of wire is also a selection to consider (Fig. 4). Ten gauge wire is the most popular.

Construction

The type of construction of the panel is another choice to make. Construction types include: Hemmed Edges (Fig. 5), Banded

edges (Fig. 6), Double Channel Frame (Fig. 7), Double Crimped (Fig. 8) (adds additional strength to the infill panel, and Intermediate Crimped (Fig. 9).



Figure 8: Double Crimp



Figure 9: Intermediate Crimp

Infill Panels

Infill panels can be furnished with various types of woven wire mesh, patterns, and framing. These panels may be used to fill areas in porches, balconies, or any type of stair railings. Two common styles are the Double Rake (Fig. 10) and Standoff (Fig. 11).

Weld Finish

It is recommended that the manufacturer provided a sample of the type of welded finishes the customer has to choose from. Examples of weld finish types include:

- No evidence of welded joints (Fig. 13).
- Welds may be undercut and with pin holes (Fig. 14).

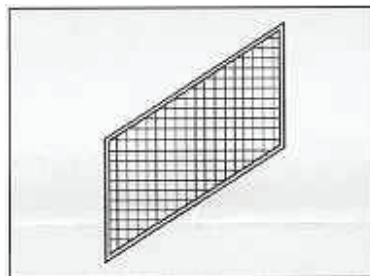


Figure 10: Double Rake

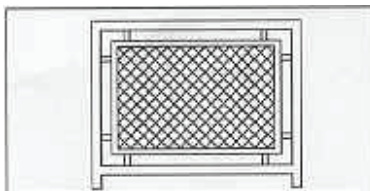


Figure 11: Stand Off

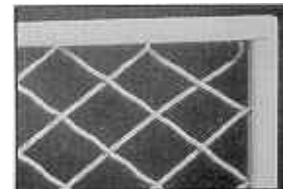


Figure 13: No evidence of welded joints.



Figure 14: Welds may be undercut and may have pin holes

Table A: Finish Options

Finish	Application
No Finish	Finish by others
Primer	Prior to final finish
Primer Paint	Base coat
Enamel Paints	Finish coat
Safety Colors	High traffic areas
Powder Coating	High quality finish
Hot Dip Galvanized Salt	high humidity
Pre-galvanized	Indoors

environment. Paint applications may be specified by mills (thickness). An average coverage equals one mil. As you can see from the table, there are many finish options.

Follow-up and Customer Service

It is very important for the manufacturer to follow-up several times after the product has been completed and shipped. The supplier should confirm that the product was received in good condition. A supplier should contact the customer during installation to make sure things are going smoothly.

Conclusion

We believe these are several basic guidelines that assist in the ordering, manufacturing, shipping, and installing of infill panels and other mesh products. The guidelines given here are aimed at producing high quality merchandise and providing a superior level of customer service.

Jesco-Wipco-Hoosier has been a NOMMA member since 1993. For questions on infill panels and wire mesh products, call (517) 542-2903 or (800) 455-0019.

- Undressed welds as applied (no cleanup) (Fig. 15).

Finish

When selecting a finish, you should know the environment, temperature, and air quality that the panels will be subjected to. Table A shows the best choices of applications for each

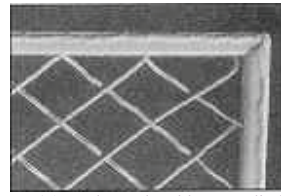


Figure 15: Undressed welds as applied (no cleanup.)