

HVAC & PLUMBING PRODUCT NEWS

HVAC/P™

PREMIERE ISSUE

Pictured: A selection of VRF products. Get the details on page 18.



Zoned comfort

VRF technology picks up steam – see inside for best practices and products



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Compact HVAC equipment with big performance

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Sleek and efficient, among qualities of the latest fixtures

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Down the DRAIN

New technology raises lowly drainage to loftier place

Here in North America, plumbing engineers, installers and design professionals see every type and variety of plumbing challenge. And most plumbing pros will readily admit that commercial drainage systems can present some of the toughest challenges.

When it comes to higher-end residential or commercial installations, there are typically few choices to make when selecting the right product solution for plumbing, process, wash-down or exterior surface drainage; ductile iron, PVC, copper and nickel bronze are the usual candidates.

Now, forcing their way into the mix for designers, specifiers and installers are super-heroic new technologies. Enter über-versatile stainless steel and plastic technologies.

It only makes sense, as new products are rushing in to improve all facets of building performance — from hydronic efficiency to water use, re-use and backflow prevention — that drainage technologies advance as well. But given the behind-the-wall, under-the-floor, bad-breath status, the often lowly, maligned drain

is last on the list for specifier consideration.

“A recent entry onto the drainage stage has been the introduction of stainless steel systems,” said Derrick Lundy, drains product manager, Watts Water Technologies (Canada), Inc.



Hospitals, hotels, shopping malls and airports all benefit daily from the performance of stainless steel drainage solutions.

According to Lundy, a wide variety of extremely durable, aesthetically pleasing drainage pipe, fittings and trim have entered the global market, many of which got a start in Europe. New stainless steel drainage systems are suitable for applications ranging from residential bathrooms to large industrial facilities.

Typical products include standard and customized floor drains, drainage pipes and



At a FedEx jobsite in Virginia, Dulles Plumbing Group installers set DeadLevel™ trench drain sections. Dave Hudgens, president of the commercial plumbing and mechanical contracting firm, knows firsthand how advanced drainage technology can save jobsite time, keeping a company ahead of schedule for a client that's literally racing the clock 24-7/365.

channels — all in stainless steel to ensure high-quality, outstanding flow characteristics with minimal maintenance.

COMMERCIAL AND INDUSTRIAL USE

Hospitals, hotels, shopping malls and airports all benefit daily from the performance of stainless steel drainage solutions. Properly treated, low-porosity stainless steel has a uniquely smooth surface that guarantees excellent hygiene

and resistance to bacteria-laden biofilm.

“Stainless steel is also a strong, durable and chemical-resistant material,” added Lundy. “Due to excellent material properties, with stainless steel, the weight of a drainage system can be reduced by more than 75 percent compared to cast iron; this contributes to ease of installation. Stainless steel is also entirely recyclable and non-toxic, making it an

environmentally friendly solution, also favored by the USGBC for LEED certification.”

Stainless steel drainage systems are also ideally suited for use in the food and beverage industries, as well as pharmaceutical and chemical plants. Stainless steel floor drains with gas-tight covers, flushing-rim drains, dual-contained drains, pipes and channels provide superior fluid drainage from production areas, labs and cleanrooms.

STAINLESS STEEL: IDEAL FOR HI-TEMP PLUMBING

In an interesting and rigorous application, a 164,000-square-foot, three-story, \$80-million prison kitchen/warehouse facility is being built in New Orleans, La. that will soon have the capacity to prepare 25,000 meals every 12-14 hours, if needed. It can also preserve meals in its freezer for up to 45 days.

One of the most unique facets of the new facility's construction was the specification for 8,000 lineal feet of stainless steel drainage piping, chosen because of the resilience and thermal characteristics of the material.

"Stainless steel was the ideal material for the job," explained Jamey Logrande, vice president and senior project manager with Metarie, La.-based design engineering firm Huseman & Associates. The firm was responsible for design of the building's MEP and fire protection systems.

"With stainless steel, bacte-



Unique corner drains are just one of the many trim options available from Blücher stainless steel drainage products, a Watts company.



Workers prepare to set and connect Watts DeadLevel trench drain sections at a school in Texas.

rial growth in the drainage system is greatly reduced," added Logrande. "And, of course, the very nature of this building is to assure permanence and durability."

The material chosen by the general contractor, New Orleans-based Woodward Design-Build, was sturdy stainless steel pipe.

"We needed a plumbing system that could routinely move liquids at temperatures of up to 250 to 260 F because of the multiple 300-gallon steam pressure cookers dumping into the waste system," explained Logrande.

"The supplier has optional stainless steel gaskets that are rated for use at temperatures up to 390 F," added Logrande. "And we needed to exceed the rated maximum temperatures for cast iron couplings and gaskets — just 210 F — so stainless became our choice for the best material for the job."

The sometimes super-high temperature of heavy, semi-fluid, cooked goods was a key concern, but so was the weight and volume of the mass being drained in the large steel pipes



An installer with Gallo Mechanical connects Blücher stainless steel drainage sections at the Orleans Parish Prison in New Orleans.

used to transport soups and stews to packaging machines.

"We knew of the need for massive dumping of high-temp fluid on a regular basis and, with very expensive, very temperature-sensitive food storage spaces below the kitchen, we knew there'd be no room for error," said Logrande. "We can't afford a leak; the result would be catastrophic."

DEAD-ON TRENCH DRAINS

Another example of commercial drainage innovations: new, lightweight, plastic trench

drains. Illustrative of the newest technology are products that are pre-sloped trench drain systems. Six- and 12-inch wide by 48-inch long standard sections come with optional ductile iron or polypropylene UV-stabilized frames and talc-filled polypropylene UV-stabilized channels with either four- or six-inch no-hub bottom or end outlets. The system is frame anchored, IAPMO certified and meets applicable DIN Class load class ratings.

"Each drainage system comes complete with channels assembled to frames, grates,

lockdowns, frame connectors, end caps and construction covers that eliminate the unpleasant task of attempting to remove hardened concrete from the channel after the pour," said Lundy.

Product experts tell field pros that — with a simple sketch, showing lengths, flow direction and outlets — they can prepare a package or a list of components to complete the required layout.

All piping connections are "no hub" — using a mechanical (typically neoprene) coupling to join the cast iron, plastic or other pipe material to the outlet of the drain. Bottom or end connections are made with a standard mechanical coupling. Closed outlets are on the bottom of each channel section and on the end caps. Runs may slope to the center, away from the center, or in multiple directions, with a corner, tee or cross option made without mitering.

The pre-sloped system is 100 feet long. If the jobsite demands a longer drain run, the system can be extended using neutral channel sections, or multiple outlets, with an outlet every 100 feet, sufficient in most applications.

Systems do not necessarily have to be sloped. In fact, neutral trench runs are frequently installed where the ground is already pitched, or where depth constraints restrict the use of deeper channel sections.

A two-man crew with rebar driver and laser level can easily set in less than a day. Cutting is required only to open outlets, trim end caps and to make catch basin or tee connections. Grates are installed before the pour.