

# The Mechanical Pipeline



## PROJECT SUMMARY

- Approx. 10,000 sq.ft. house
- 3 furnaces
- 1 combination heating/ domestic hot water boiler
- All natural gas equipment vented with System 636® PVC and CPVC piping

**System 636®**  
FLUE GAS VENTING

## System 636® Flue Gas Venting Finds Home in HGTV Celebrity Scott McGillivray's New House

Scott McGillivray fixes homes on TV in front of a ginormous audience but he's not just another celebrity. Scott makes a living from his expertise in construction with more than 10 years of contracting experience (plus some charm thrown in there).

Based on his building material knowledge, he also promotes the use of vinyl products for residential applications as a member of the Vinyl Council of Canada.

### At Home North of Toronto

Scott's company, The McGillivray Group, created a new show, Moving the McGillivrays, which documents the construction of Scott's new house located on a large lot north of Toronto, Ontario. Built on 2 acres of land, this dwelling is closer to the size of a small commercial building than the average home.

While TV viewers focus on the aesthetics of the final product, the nitty gritty of building services like HVAC, Electrical and Plumbing

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are fundamental aspects of the home's construction.

With this in mind, McGillivray approached IPEX to provide piping, conduit and venting for his home because of IPEX's reputation for providing a broad range of high-quality thermoplastic products.

“We supplied anything we manufacture that his house needed,” said Steve Barker, senior account manager at IPEX HomeRite Products, the residential arm of IPEX Inc. “ABS pipe fittings, PVC sewer pipe and fittings, polyethylene pipe, electrical conduit and fittings, and System 636® flue gas venting”

## Heating the McGillivrays

The heating system in McGillivray's home consists of three furnaces and a combination boiler for radiant in-floor heating and domestic hot water. The boiler and the main 120,000 BTU/h furnace are housed in a basement mechanical room while a smaller 80,000 BTU/h furnace on the second floor takes care of the bedrooms on that storey. The third furnace serves the pool house, which is separate from the main structure.

Of course, all these condensing, natural gas appliances need venting that meets the Ontario Building Code (OBC) and the Canadian Standards Association (CSA) B149.1 Natural Gas and Propane Installation Code, requiring ULC S636 certification.

One of the ULC S636 requirements is that a single manufacturer must provide all parts of a venting system since there are variations in materials, adhesives and joining systems between manufacturers. IPEX's System 636® is an answer to this requirement with its complete range of components.

### System 636® by IPEX

System 636® is a PVC and CPVC venting system used for natural gas appliance flue gas venting. It meets CSA B149.1 for natural Gas and Propane Installation, up to 65°C for PVC and 90°C for CPVC. In addition to piping, the system includes specialized cements, fittings and termination kits to ensure a complete installation that meets strict ULC S636 requirements.

The heating contractor, Thermal Concepts, installed IPEX's System 636® (PVC and CPVC) for all boilers and furnaces, complete with concentric venting kits in addition to other termination fittings. Pre-installation preparation ensured a smooth set-up with minimum downtime.

PVC was used for the furnaces and CPVC was used for the combi-boiler due to its higher temperature exhaust ratings. Concentric vent kits were used to terminate vents at the roof. This allowed for a single external penetration for both combustion air intake and flue gas exhaust while maintaining the code-compliant distance between intake and exhaust due to its design.

### Challenges in the Attic

While the basement mechanical room posed no issues for venting, the second floor furnace was placed in an interior mechanical room. This created a unique challenge for the venting, which is typically as short as possible.

The second floor furnace vent pipe was routed vertically through 25' of attic space, terminating above the roof on a very steep pitch. "Supporting the vent through the attic was challenging," acknowledges Joe Didonato from Thermal Concepts Ltd. Ultimately, System 636® pipe is able to withstand



this long run due to its sturdy dimensions and an effective support system.

### A Complete Venting Solution

With IPEX's installation support and System 636's extensive product offering, Thermal Concepts was able to install a complete venting solution with total confidence. Scott McGillivray and his young family will be able to enjoy their home with safely vented heating equipment.



Didonato says this about IPEX System 636: "We've installed thousands of these systems and never had an issue. We'd never use anything else!"

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