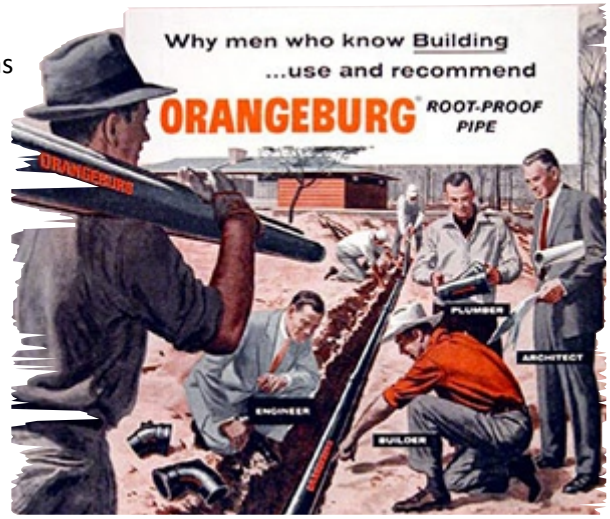
Drainage Woes: Orangeburg Pipes

Orangeburg pipe is a type of drainage conduit that was used in homes and businesses in North America and abroad from the later 1800's until the 1970's. In our area, the pipes were used regularly as main drain lines during the 1930's and 1940's when other materials were needed for the war efforts. Orangeburg pipe was the best solution – at the time. Unfortunately, it has left a rather leaky legacy.



Orangeburg pipe, also referred to as fibre conduit or Bermico pipe, was made by combining and compacting wood chips and pulp with tar. The resulting pipe was rigid and waterproof; the two properties manufacturers were after when they first invented the process.

Unfortunately, over time, Orangeburg pipes were found to be prone to peeling and collapsing under the weight of the ground above and as a result, not suitable for sewer or drainage system use.

The first use of this ‘bituminized pipe' was as a water main in Boston around 1867. Later, the pipe's waterproof characteristics, light weight, longer lengths, low cost and ease of use set the stage for its application as drainage and sewer pipe.

Orangeburg pipe was manufactured in diameters ranging from 5 to 46 cm (2 to 18 in) and could be made in longer lengths than its clay cousin, making it a good alternative for sewage and drainage. Plus, the longer lengths meant fewer joints to leak and that allow invasive roots to grow – two major issues with the clay pipe option. Orangeburg pipe was also made with a tapered end so that one could fit inside another to make a much more secure joint.

Problems Arise

Problems with Orangeburg pipe only started to surface after years of use. It can last 50 years or more under ideal conditions, but has a tendency to collapse under the weight of the soil above. For this reason, it was removed from most ‘suitable materials' lists long ago.

Many homeowners across Canada have already dealt with the pipe's deterioration and replacement, but Elementary Property Inspections still sees examples of Orangeburg pipe failure in homes. There is still a significant amount in the ground' that will need to be dealt with. When the need arises, or if planning major renovations to your home, there are two main options; replacement or repair.

The biggest issue with this pipe is that it is not visible and can only be determined to exist by a plumbing contractor who scopes the main drain line.

So how do most people find out their Orangeburg pipe need to be replaced or repaired? The simple answer is ‘when it fails'. Of course, since it is deep underground in most applications, that can be difficult to assess without a properly trained and equipped plumbing professional. If you have flow problems that can't be explained by other factors, call a professional - it may be your Orangeburg pipes.

Solutions are Available

Replacement of underground conduit is never simple and can be an invasive and costly process. Even with today's computerized boring machines and trenching solutions, costs can add up.

Thankfully, repair solutions that have been invented recently allow for relatively easy ‘restoration' of the pipe. One such solution for pipes with leaks but that have not collapsed, involves inserting a collapsed liner into the pipe, inflating it to expand it outward to the pipe walls, then treating it so it is rigid. This solution claims to bridge gaps in the pipe walls without a problem. And it's waterproof characteristic means roots will not regrow.

Once the pipes collapse however, complete replacement is necessary and for this reason, any homes constructed during this time frame may wish to invest in a plumbing scope to avoid complete failure.

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