PRODUCT SPOTLIGHT

PVC & THERMOPLASTIC PIPING

ZORN COMPRESSOR & EQUIPMENT

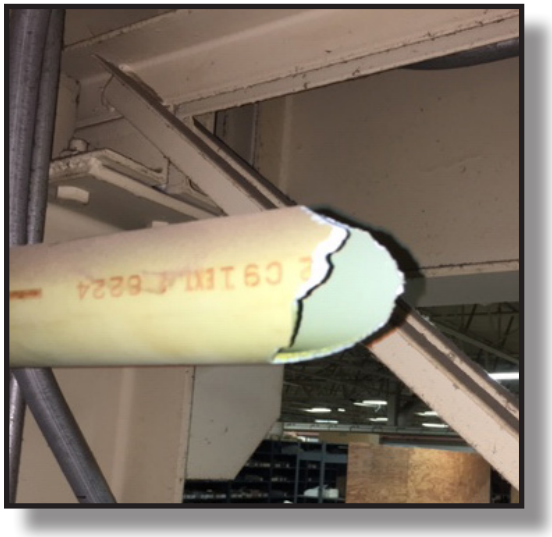
DANGEROUS COMPRESSED AIR PIPING

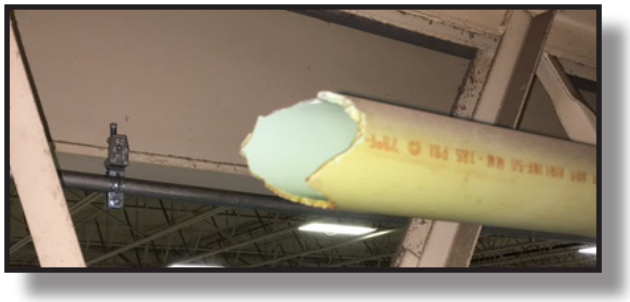
The use of PVC pipe, and other thermoplastic piping options, for compressed air piping is common, but not recommended.

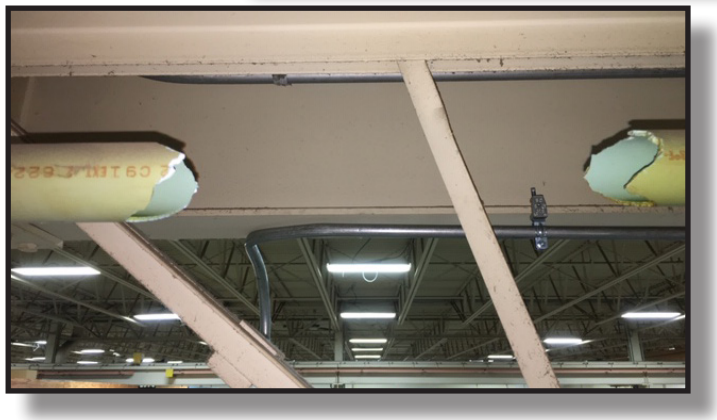
The main problem with PVC is that it is a brittle material that can be broken or shattered. The presence of air compressor oils in the line and heat from the compressed air accelerates the degradation of PVC, and, often times, the adhesives used in installation are not compatible with all types of compressor oils. As the piping fatigues, it is at risk of cracking or shattering. When PVC shatters, it explodes like a bomb, literally – due to rigid piping in combination with the immediate release of stored energy – and can throw plastic shrapnel and projectiles, which can be very dangerous and destructive. It isn't a matter of if the PVC piping will fail, it's when.

Several advisory statements have been made from the Plastic Pipe Institute (PPI), American Society for Testing Materials (ASTM), as well as various other organizations, manufacturers, several State and Federal agencies, and it is also an OSHA violation to use PVC for compressed air distribution.

If you are currently running your compressed air through a PVC piping system, we recommend that your air system is de-pressurized and locked-out, per OSHA standards, until the piping is removed from service and an appropriate product for compressed air service is installed. It is our recommendation to use black iron, copper, or extruded aluminum. All of these options are approved for safe compressed air service. We specialize in compressed air piping installations. If you'd like to upgrade or replace your current compressed air PVC piping system, please, contact Zorn Compressor for more information or a consultation.







This customer had their lines break in multiple areas. One break sent a 2 foot long shard of PVC about 100 feet through the plant and near the parts area where people were getting supplies. They also had several fittings come apart.

PRODUCT SPOTLIGHT

PVC & THERMOPLASTIC PIPING

ZORN COMPRESSOR & EQUIPMENT

The Plastic Piping Institute issued Recommendation B-
Thermoplastic piping for the transport of compressed air or compressed gases

The Plastic Pipe Institute recommends against the use of thermoplastic pipe to transport compressed air or other gases or the testing of such piping with compressed air or other compressed gases in exposed above ground locations, e.g. in exposed plant piping. It is recommended that all thermoplastic piping used to transport compressed air or other compressed gases be buried underground or encased in shatter-resistant materials. In designing thermoplastic piping to transport compressed air or other compressed gases, the strength at the operating temperature, the pressure, the energetics and the specific failure mechanism need to be evaluated. - Adopted January 19, 1972

The American Society for Testing Materials
Draft Proposal to be added to the standards for PVC pipe and fittings

The products covered by this specification shall not be used in piping systems intended to store and/or to convey compressed air or other gases. Furthermore, these piping system products shall not be tested with compressed air or other gases unless recommended for such testing by the specific manufacturer, Additionally, the specific manufacturer making this recommendation shall provide a detailed procedure for such testing." - ASTM F17 - Project 90-95-01

OSHA Hazard Information Bulletins
The Use of Polyvinyl Chloride (PVC) Pipe in Above Ground Installations

The Dallas Regional Office has brought to our attention a potential serious hazard existing with the use of polyvinyl chloride (PVC) plastic pipes for transporting compressed gases in above ground installations. An employee in a Texas plant was injured recently by a rupture in a PVC compressed air line. Plastic projectiles from the point of rupture caused lacerations of the employee's hand. This is noteworthy because the Plastic Pipe Institute, in its Recommendation B dated January 19, 1972, recommends against the use of thermoplastic pipe to transport compressed air or other compressed gases in exposed plant piping. -Leo Carey, Director in memorandum for Regional Administrators

American National Standards Institute/ American Society of Mechanical Engineers (ANSI/ASME)

Sections 842.32, 842.43 and 849.52(b) of the American National Standards Institute/American Society of Mechanical Engineers (ANSI/ASME) B31.8-1986, Gas Transmission and Distribution Piping Systems Standard, limit the operating pressure of plastic piping distribution systems to 100 pounds per inch (psi) and prohibit the installation of such systems above the ground except where "...the ground portion of the plastic service line is completely enclosed in a conduit or casing of sufficient strength to provide protection from external damage and deterioration."

To learn more about the dangers of PVC & Thermoplastic piping please contact us 800-476-4637 | ZORNAIR.COM