

# Selection of materials

## Plastic pipes for compressed air or gases



Although plastics can be used to transport compressed air, the selection of the correct material for this application is particularly important. The compressibility of air and/or other gases results in tremendous amounts of stored energy, even at low pressures.

PVC-U and PVC-C have a brittle mode of failure, and should a fracture occur in a pipe handling compressed air or gas, the immediate release of the stored energy can cause extreme danger. Under these conditions, the velocity created by the rapidly escaping air and the resulting failure mode can throw shards of material in all directions. For this reason PVC-U or PVC-C must never be used for this application.

Certain compressor oils are known to cause stress cracking of ABS and Polypropylene, and for this reason they are also not recommended for this application.

Polyethylene (PE) has good resistance to compressor oils, and has high ductility and impact strength. This material may be used for compressed air or gases (subject to the chemical suitability of the gas with the material).



AGRUAIR PE compressed air piping installed at a chemical plant

