



## M82 SMOKE GRENADE (7 POLYMER COMPONENTS)

### PROBLEM

The U.S. Government had a multi-component system comprised of highly robust, precision injection-molded components with very high tolerance stack up. These requirements contributed to a difficult geometric challenge to develop and manufacture the assembly, further complicated by the need to resist water ingress into the finished assembly.

### SOLUTION

PTI conducted mold-flow analysis to minimize shrinkage and identify the optimal tooling configuration. This evaluation included gating, venting, parting line, and process capability studies for each component and its respective tool. The result was precision high-volume manufacturing tooling that met all stringent assembly requirements, and was able to support the assembly of a fully functioning finished system.



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*PTI (formerly Polymer Technologies Inc.) is an integrated precision injection molder of advanced polymers, metals (MIM), and ceramics (CIM) supporting the Aerospace, Medical, Defense, and Industrial sectors for over 30 years.*