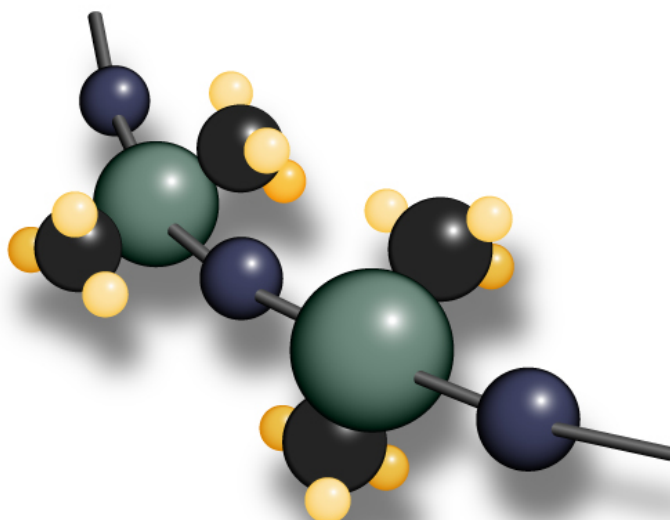


Polymer Systems Technology Limited

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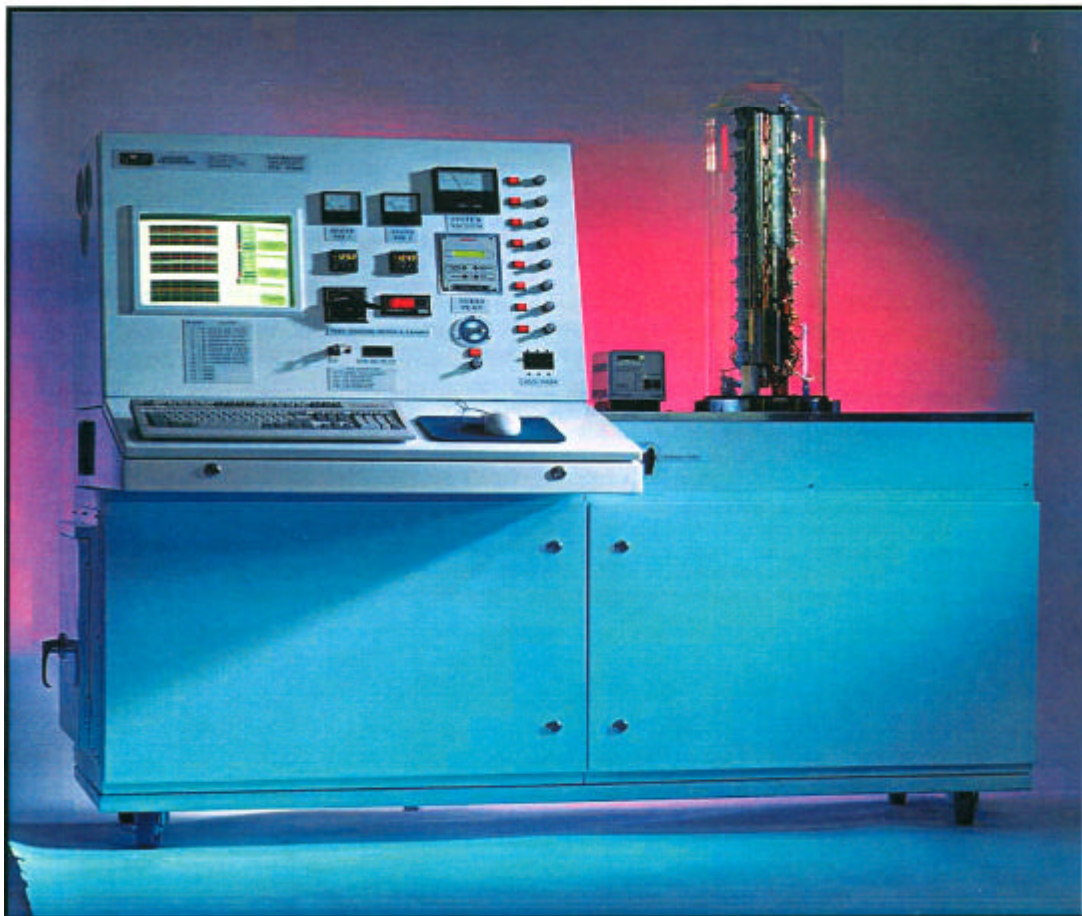
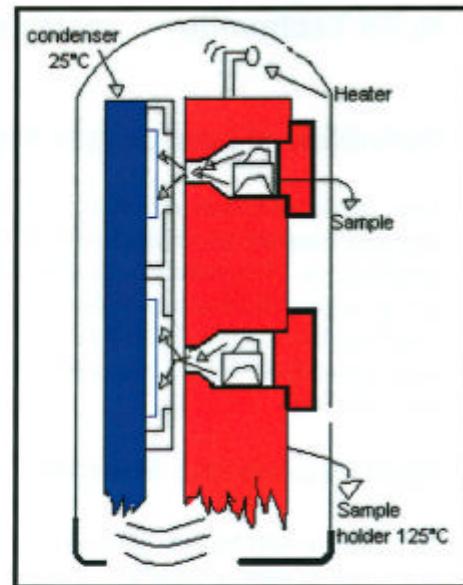
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Test Method ASTM E 595

ASTM Test Method E 595 Procedure Summary:

Each material sample undergoes preconditioning. Preconditioning is conducted at 50% relative humidity and ambient atmosphere for twenty-four hours. The sample is weighed and loaded into a compartment within a test stand. The sample is then heated to 125°C at less than 5×10^{-5} torr for 24 hours. Any volatile components of the sample outgas in these conditions. The volatiles escape through an exit port and, if condensable at 25°C, condense on a collector plate maintained at that temperature. The samples are post-conditioned in 50% relative humidity and ambient atmosphere for a twenty-four hour minimum. The collector plate and samples are then weighed again to determine the percentage of weight change, determining TML% and CVCVM%.



NuSil Technology- Low Outgas Materials

Definition of Low Outgas Materials

Low outgas materials are characterized by their minimal volatility when exposed to the elevated temperatures and decreased pressures historically associated with extraterrestrial applications. The National Aeronautics & Space Association's (NASA) criteria for low outgas materials limit materials' Total Mass Loss (TML) to 1.0% and Collected Volatile Condensable Material (CVC) to 0.10%. To adhere to NASA's requirements for a low outgas material, NuSil Technology utilizes ASTM's Test Method E 595* as a standard, lot-to-lot test.

Applications and Benefits

By utilizing ASTM Test Method E 595, NuSil Technology aids its customers with the screening of outgas materials. Materials exhibiting minimal volatility have a low potential for contaminating surrounding components or assemblies. While these materials are regularly considered for use in aerospace (extraterrestrial) applications, benefits of these materials may extend to:

- Electronic Applications,
- High Vacuum Applications, and
- Clean Room Applications.

Many standard product properties such as optical clarity, thermal and electrical conductivity, and high dielectric strength can be found in NuSil Technology's standard line of low outgas materials.

NuSil Technology, an ISO-9001 certified company, is an industry leader in developing, manufacturing and testing low outgas materials. Continually adhering to NASA requirements and ASTM standards, NuSil Technology supports our various customers by supplying accurate outgas testing, a broad line of low outgas silicones, and developing custom silicone materials to meet unique customer specifications.

*ASTM Test Method E 595 Procedure Summary: Each material sample undergoes preconditioning. Preconditioning is conducted at 50% relative humidity and ambient atmosphere for twenty-four hours. The sample is weighed and loaded into a compartment within a test stand. The sample is then heated to 125°C at less than 5×10^{-3} torr for 24 hours. Any volatile components of the sample outgas in these conditions. The volatiles escape through an exit port and, if condensable at 25°C, condense on a collector plate maintained at that temperature. The samples are post-conditioned in 50% relative humidity and ambient atmosphere for a twenty-four hour minimum. The collector plate and samples are then weighed again to determine the percentage of weight change, determining TML% and CVC%.