September 1973 B73-10338

NASA TECH BRIEF

Lyndon B. Johnson Space Center

Improved Mold Release for Filled-Silicone Compounds

The problem:

Ceramic and filled-plastic materials used for the fabrication of tiles are relatively brittle and easily break as they are being removed from molds. Typically, tiles are broken when they stick to molds and require some extra force for removal. To prevent this sticking, several chemicals have been marketed as sprays for the inside surfaces of molds. However, none of these spray releases has proved very effective.

The solution:

Dusting the mold surfaces with commercially available glass microspheres provides a mold release superior to the existing spray releases.

How it's done:

The microspheres are epoxy-bonded fine glass particles 0.002 inch (0.05 mm) in diameter. They are applied by squirting from a squeeze wash-bottle over the mold surfaces and lightly brushing the surfaces or wiping them with cheesecloth. Excess microspheres are removed with a vacuum cleaner. What remains is a light coating which provides a very effective mold-release action.

Notes:

1. The glass-microsphere dusting also permits removal of uncured tile which has very little strength.
2. No additional documentation is available. Specific questions, however, may be directed to:

   Technology Utilization Officer
   Johnson Space Center
   Code JM7
   Houston, Texas 77058
   Reference: B73-10338

Patent status:

NASA has decided not to apply for a patent.

Source: O. E. Accountius of
Rockwell International Corp.
under contract to
Johnson Space Center
(MSC-19300)

Category 04, 08