



## NEWS RELEASE

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FOR IMMEDIATE RELEASE

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**AGGRESSIVE SOLVENT MEETS ITS MATCH--  
LEADING EQUIPMENT MANUFACTURER DISCOVERS MATERIAL  
THAT HOLDS THE KEY TO LONG-WEARING ROLLER PERFORMANCE**

Closter, NJ: Roller swelling, erosion, deformation and premature equipment failure resulting from the hot, boiling solvent vapor used in Forward Technology's F-100 Series Compact Solvent Cleaning System set the manufacturer to search for an extended-wear roller material to withstand the automated vapor degreaser cleaning cycles for cleaning small precision components used in medical devices, dental implants, surgical instruments, precision optics and computer disk drives.

In an effort to locate a more enduring roller material for use in the compact vapor degreaser, Russell Manchester, Product Manager at Forward Technologies, Plymouth, Minnesota, investigated a wide range of materials.

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“Teflon, with its low coefficient of friction, high melt point and non-reactive properties seemed like a good choice,” recalled Manchester, “but during testing, the Teflon rollers became soft and chewed-up on the sides and particles of the Teflon material were being released and migrating into the product.”

“Delrin, a lightweight, low-friction, wear-resistant plastic was tried next. And after that we tried a low friction moly filled Nylon material that quickly developed very high rolling friction in the hot Ultrasonic solvent bath. We also tried UHMW. All had major shortcomings. Even UHMW became dimensionally distorted and out-of-round. In fact, the UHMW roller grew too big (with a 17% swelling) and became worn in the metal roller rail slot. ”

Just when it appeared that no plastic material would work, Manchester read a short article in a trade publication about Power Core™ rollers from Intech Corporation, and he made one last plastic material test. To his surprise and delight, the solid-cast Intech Power Core™ material worked exceedingly well.

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Rollers made of Teflon, Delrin, filled Nylon and UHMW extruded materials swelled and locked-in place when the inherently porous structure of the extruded materials absorbed the solvent. Unlike the previously tested materials, the gravity-cast Intech Power Core™ material, which features a dense, void-free crystalline structure with no outgassing or dimensional change did not absorb moisture and continued to roll.

Roller materials were subjected to atmospheric conditions, hot solvent vapor, boiling solvent liquid and ultra-sonic scrubbing in an automatic PLC-driven 1,000 cycle test to determine performance within the F-100 Series degreasing system. Tests on other materials had to be halted at just 250 cycles in the rigorous repeat cycle test because the roller assembly wheels swelled, stopped turning, locked onto the shaft and wore excessively. Intech Power-Core™ rollers continued turning for the full 1,000 cycle test. (see after-test photo).

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In summing up the test results, it was noted that the Power Core™ rollers were actually rolling and not sliding like others that were tested. Manchester said, “the simplest is the best. In fact, the Intech Power Core™ roller is attached to the wheel with just a shoulder bolt. We don’t even need to use bearings.”

The Forward Technology F-100 Series Compact Solvent Cleaning System, originally introduced in 2004, features Intech Power Core™ roller wheels as part of the continuous improvement program the manufacturer has in place for introduction of its recently released Gen3 Version.

For more information, please contact:

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**Photo Caption:**

Ultrasonic vapor-degreaser equipment manufacturer, Forward Technology, incorporates long-wearing, non-swelling Intech Power-Core™ rollers into its Gen3 F-100 Series Compact Solvent Cleaning System to handle the automated hot, solvent cycling that is required in cleaning precision medical devices, dental implants, surgical instruments, precision optics and computer disk drives.

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