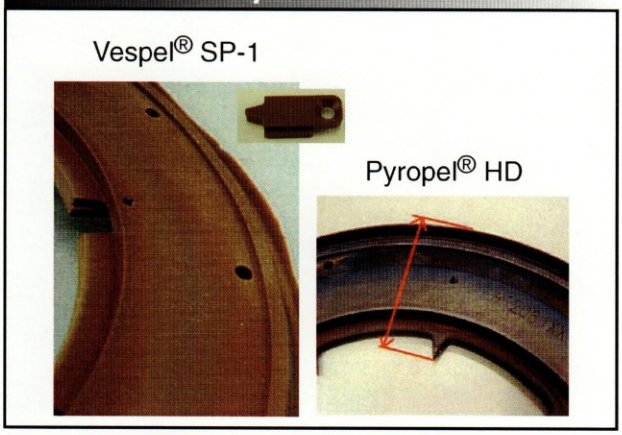
PYROPEL Case Study

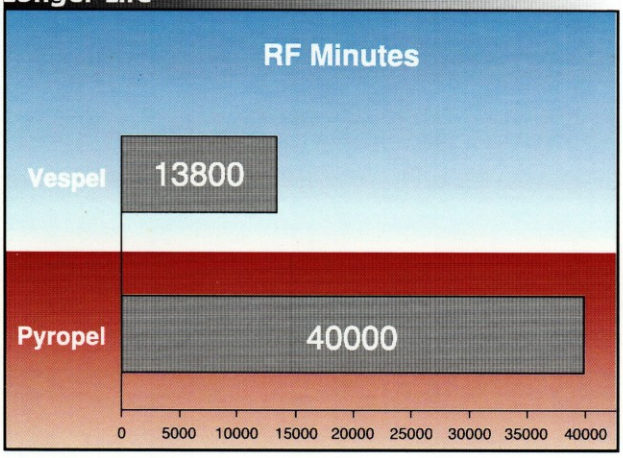
Greater Durability in Deep Trench Plasma Chamber

Greater Durability



Pyropel is able to maintain dimensional stability and withstand plasma chemistry much longer than competitive products.

Longer Life



Normally after 15000 RF minutes or less, the fingers and screws are replaced because of severe deterioration caused by the plasma chemistry. Pyropel lasts three times longer.

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SRAM, ROM and DRAM Manufacturer

Customer: A major semiconductor and electronic component manufacturer in Japan recently qualified Pyropel in a deep trench chamber. Producing LSI's, IC's, hybrid IC's, transistors, diodes, rectifying components, LEDs, and LCDs, this fab extended part life and lowered their cost using Pyropel.

Equipment Type: Applied Materials P5000 MxP deep trench chamber. Each chamber utilizes a clamp ring design with replacement fingers made from Vespel® SP-1.

Customer Challenge: The current clamp ring design causes inconsistent etch performance as a result of wear rate differences found between replacement fingers and the outer ring. To prove that a single piece clamp ring design made from Pyropel® could last at least two times longer, resulting in improved performance, without increasing costs.

Process Conditions

- Chemistry - HBr, NF_3,O_2, He
- RF Power - 450 Watts
- Run time - 180 seconds

Customer Benefits

- *Greater durability*
- *Lasts three times longer*
- *Extended time between clean cycles*
- *Lower total cost*

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