

MAFTEC® - Mitsubishi Alumina Fiber Technology. **MAFTEC®** was developed in the 1980's by Mitsubishi Plastics Inc. for long term high or cyclic temperature operation. **MAFTEC®** "Polycrystalline Alumina Fibers" exhibit excellent thermal stability, resiliency, erosion resistance and mechanical strength at temperatures to 1600°C - 2912°F.

MAFTEC® is a mullite fiber. Mullite is a stable material that does not change molecularly through the temperature range, up until it melts (1850°C). The silica in **MAFTEC®** is contained within the structure of Mullite and is not allowed to form free silica. **MAFTEC®** fiber diameter averages 5 microns.

MAFTEC® SYSTEMS

Polycrystalline Alumina Fiber (Mullite)

- **Extremely low shrinkage** - 1% at 1400°C - 2552°F. 1 ½% at 1600°C - 2912°F.
- **Resiliency Performance** - to 1300°C.
- **Higher Tensile Strength** - maintaining lining integrity.
- **Extreme Weight Reduction** - lining densities of 8-10#/cu.ft compared to monolithic of 150-160#/cu.ft.

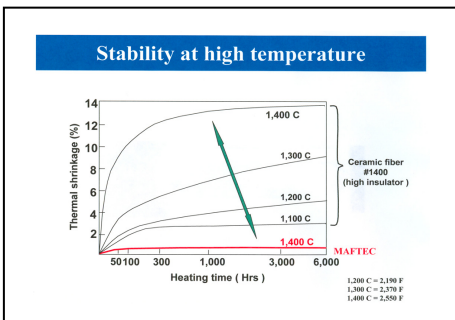
MAFTEC® MODULES

MAFTEC® modules have easily attained service life of over 10 years in reheat furnace applications. Modules removed from these furnaces have rebounded to as much as 92.5% of their pre-compressed thickness, illustrating the high temperature resistance over extremely long exposure periods.

The integrity of the lining is maintained because the fibers have minimal

shrinkage (1%), eliminating the opening of joints that cause increased heat loss, higher energy cost and in several cases structural damage.

MAFTEC® eliminates the ongoing maintenance of ceramic fiber lined reheat and forge furnaces. Packing of shrinkage gaps or pumping of slurries to reduce shell temperatures and downtime to repair ceramic fiber linings is eliminated.



MAFTEC Alumina Fiber Products

Actual Experiences of MAFTEC in the Furnace
Results in Reheating Furnace over 8 years

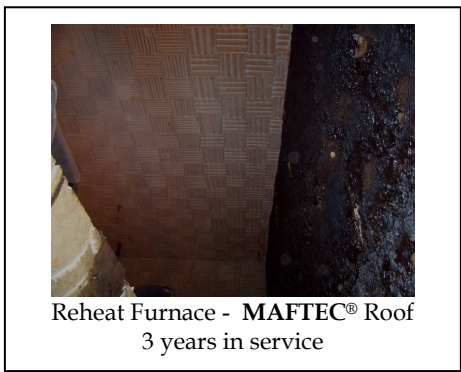
Z-Block after 8 years in Reheating furnace (Cutting of #7 Heating zone)

400mm → (compressed) 300mm → 370 mm : after 8 years

Z-Block after 10 years in Reheating furnace (Cutting of #7 Heating zone)

360 mm : after 10 years

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MAFTEC® is an investment to save furnace operators thousands and thousands of dollars in operating costs.

Stellar Canada Inc. has a program to get **MAFTEC®** modules into your furnace inexpensively. Why not take advantage of it?

INDUSTRIES SERVED

- | | | | |
|----------------------------|--------------------|------------------------|---------------------------|
| ☞ Refining - Petrochemical | ☞ Non-Ferrous | ☞ Zinc | ☞ Precast Manufacturing |
| ☞ Rock Products | ☞ Die-Casting | ☞ Boiler Manufacturing | ☞ Mineral Processing |
| ☞ Chemical | ☞ Power Generation | ☞ Primary Aluminum | ☞ O.E.M. Furnace Builders |
| ☞ Steel | ☞ Incineration | ☞ Secondary Aluminum | ☞ Cremation |