

# SILICON Products for Petrochem

## Abrasion Lining

SpeedHex® 3



SpeedHex® Mini



SpeedTab®



SpeedClip



## Transitional Lining

SpeedHex-Tention



## Thermal Lining

SpeedTab® Mega



SpeedTab® Hexy



SpeedVee®



## Hybrid Lining

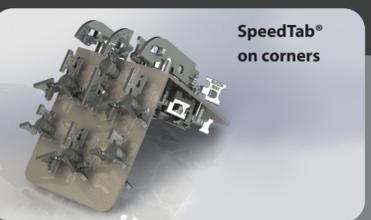
SpeedClaw



SpeedVee®



## Application examples



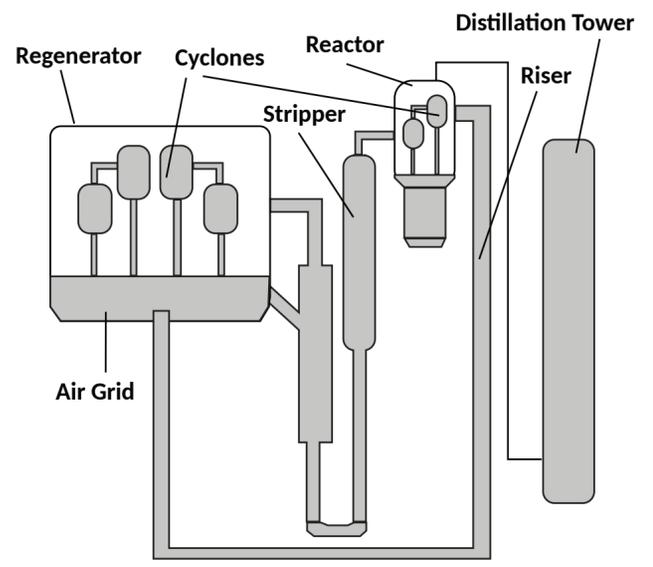
## FCC Total Solution Provider

**Engineering** - SILICON provides custom and proprietary products and solutions.

**Production** - SILICON has a state-of-the-art Refractory Anchoring & Rapid Arc Welding production facility.

**Installation** - SILICON has a dedicated crew that supervises and/or installs Refractory Anchoring Systems with our own Rapid Arc Welding technology worldwide.

We have products for each component of an FCC, because we know each part has its own unique problems



## Problems and our Solutions

### Problem: Hex Metal — A Ticking-Time Bomb

Currently the steel clasp between two metal plates allows a bypass of gasses and catalyst/product to go behind the protective lining and abrasion resistant material.



### Solution: SpeedHex® 3

The SpeedHex® 3 is designed to remove the direct path to the shell for gasses and enable continuous refractory protection across the surface of the shell, rather than only cookies/small pockets of protection and allows for more refractory material to flow through, over, under AND in between each cell.

### Problem: Edges & Corners

Standard variable standard corner tabs fail on a regular basis. The corners see the heaviest abrasion due to changes of pressure. The long exposed steel path on the corner causes anchors to be eaten up and refractory to fail.



### Solution: SpeedTab®

The SpeedTab® has greater refractory protection and a better hold on the corners, it is incredibly versatile and also resolves some of the termination bar issues on corners.

### Problem: Standard Wavey V Anchors

Commonly welded by hand with an electrode, V anchors are unreliable, inefficient and have serious health hazards due to the presence of hexavalent chromium. These problems often lead execution planners to miss out critical preventative maintenance repairs during turnarounds.



### Solution: SpeedVee®

SpeedVee® anchors have outperformed conventional V anchors in every vessel they have been installed in. They're safer, more reliable and more cost-effective by having huge positive schedule impacts.

### Problem: Bullnose Transition

Thermal cycles on bullnose transitions cause frequent cracking and chunks of refractory to fall off. Variable monster tabs have been used as a controlled cracking mechanism, but they are designed to fail and be replaced every turnaround.



### Solution: SpeedTab® Mega

By reducing the exposed steel, more refractory can flow over, under and through the anchor - keeping the refractory where it belongs - on the shell.

### Problem: Non-Standard Applications

Dual-lined transitions on flared sections on vessels have been plagued by makeshift options that are inefficient and unreliable. S-bars, stand-offs with hex mesh, chamfered hex cells, protruding plates and so on - all have their issues. Prior to starting turnarounds these key areas are often found during inspection, and can become a critical path.



### Solution: SpeedHextensions™

By taking a few dimensions of your transition, we automatically map out the pattern needed to transition smoothly from an abrasion resistant lining to a castable/monolithic lining.

Curious to learn more about the most common problems seen in a FCC unit, and what solutions SILICON has?

### Request your own live demonstration!

Completely adjusted to your interest and problems. Our experts will gladly show the innovative RAW (Rapid Arc Welding) technology and answer your questions with the utmost attention.

## Rapid Arc Welding

Developed by SILICON, Rapid Arc Welding (RAW) is an innovative method of attaching refractory anchors inside high-temperature vessels and furnaces. It is recognized industry-wide for its ability to optimize the quality, speed and safety of the anchor installation process.

- 60% - 70% Fewer Staff Required in One Space
- 10 Times Faster
- Fast response and Mobilization
- Countless More Benefits

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