

# CPI - Market Application



## Ball Valve Seats

### Material

Fluorosint® HPV

### Current Solution

Glass Filled PTFE

### Highlight of Application

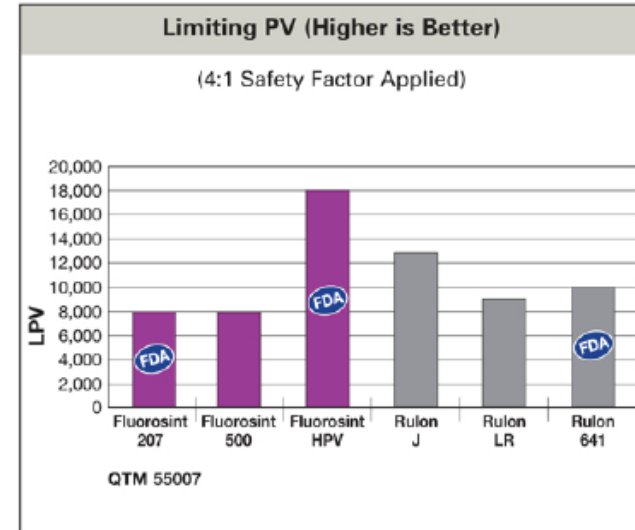
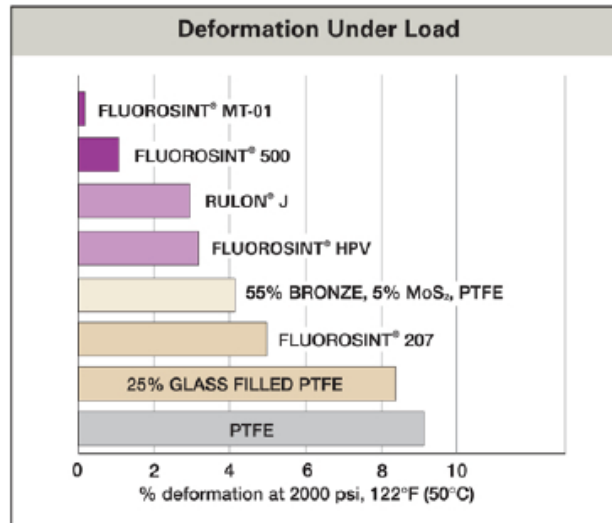
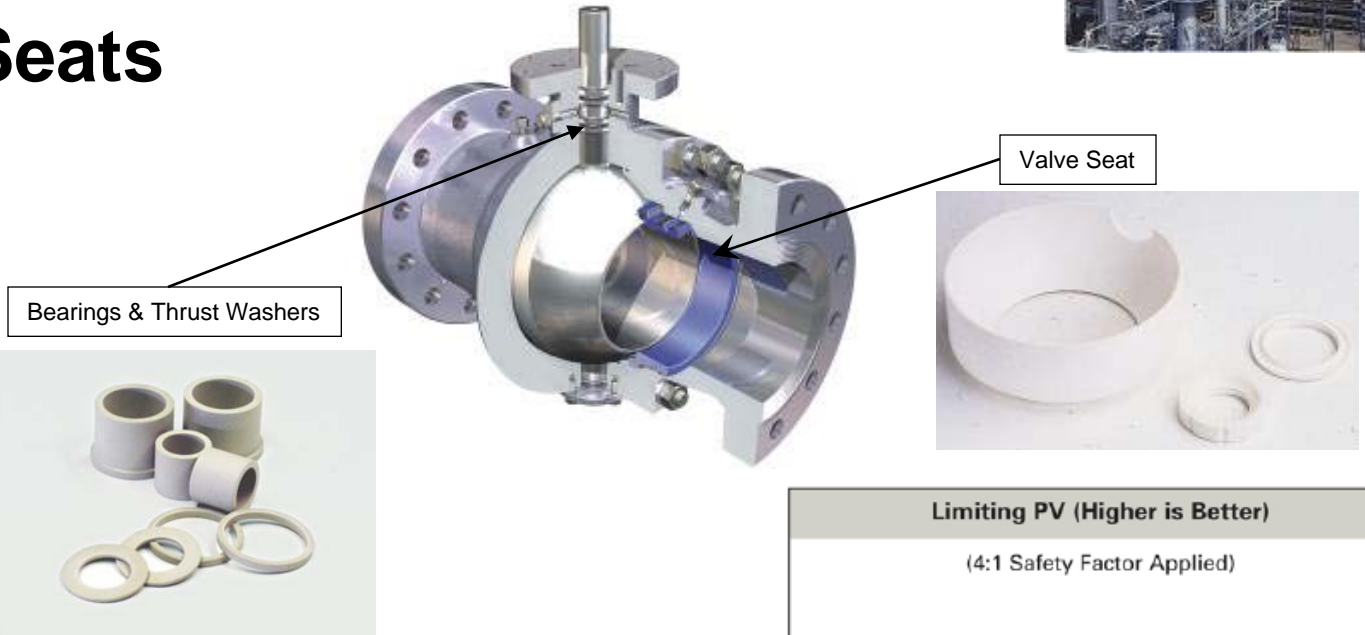
High Load  
High Temp  
Slow Speed

### Advantage of Quadrant

Low Deformation  
High Wear Performance  
Chemical Resistance  
Low Torque

### Benefit for Customer

Short approval process  
Longer Lasting Components



# CPI - Market Application



## High Temp Valve Seals

### Material

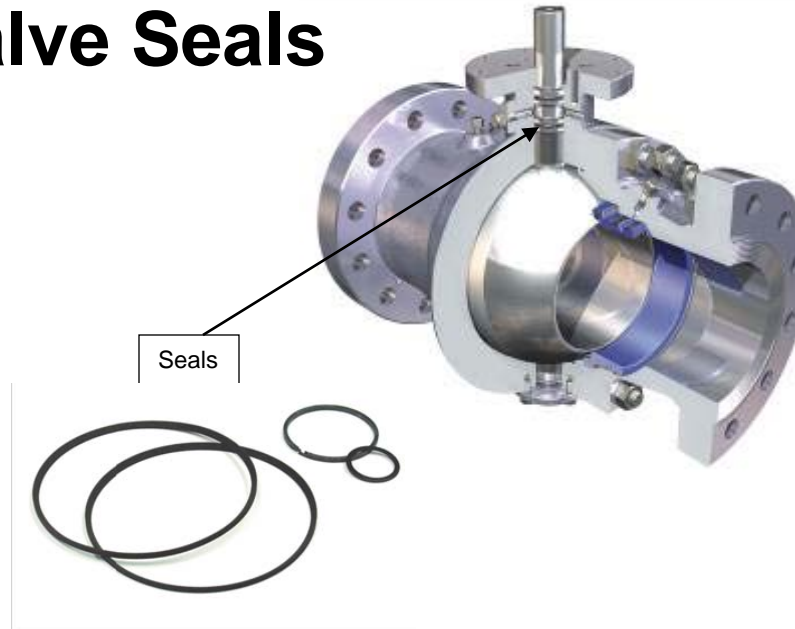
Fluorosint® MT-01

### Current Solution

Filled PTFE

### Highlight of Application

High Temp  
Corrosive Gas  
Steam

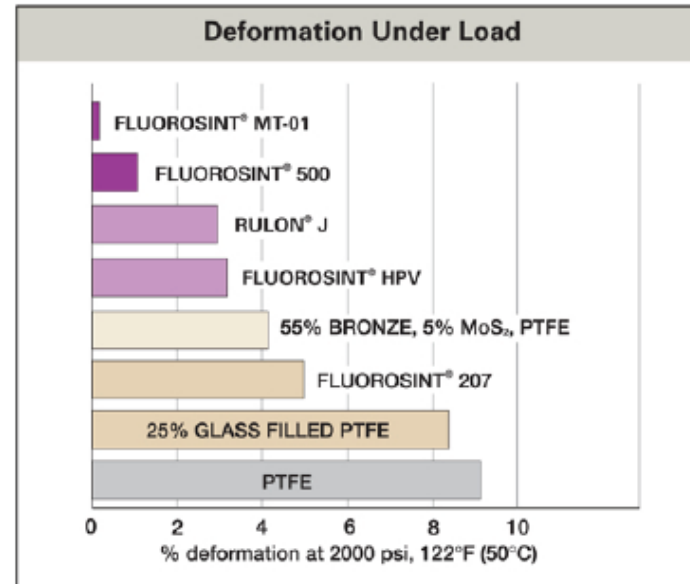


### Advantage of Quadrant

Service Temp 315°C (600°F)  
Low Deformation  
Chemical Resistance

### Benefit for Customer

Short approval process  
Longer Lasting Components



# CPI - Market Application



## Compressor Parts

### Material

Fluorosint® 500

### Current Solution

Aluminum, Metal

### Highlight of Application

Abradable Seals  
Inlet Shrouds  
Corrosive Gas



Labyrinth Seals in Rotating Compressors



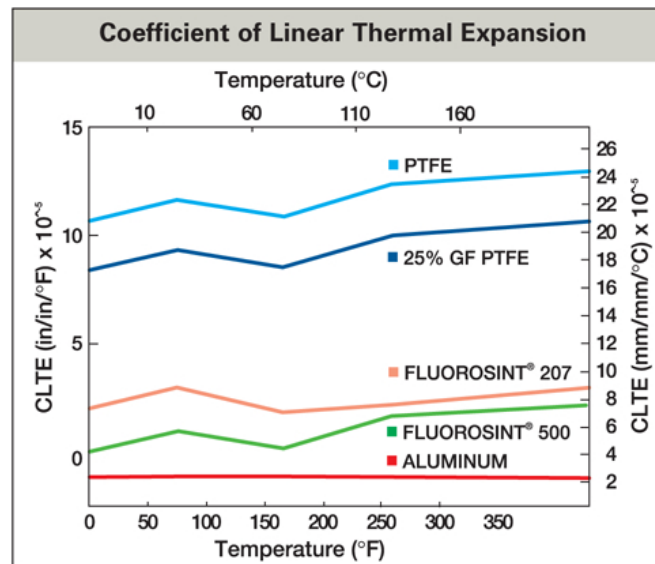
Solid ring for machining seals

### Advantage of Quadrant

CLTE equal to Aluminum  
Service Temp 260°C (500°F)  
Low Deformation  
Chemical Resistance

### Benefit for Customer

Increase Performance  
Longer Lasting Components  
Non destruction parts



# CPI - Market Application



## Compressor Parts

### Material

Ketron PEEK® / Torlon®

### Current Solution

Aluminum, Metal

### Highlight of Application

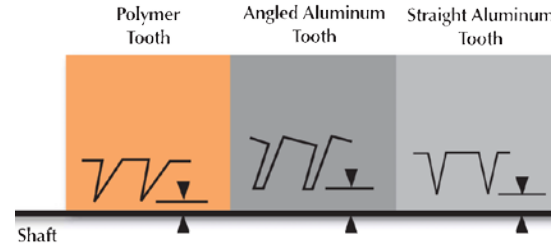
Labyrinth Seals  
Balance Seals  
Bearings

### Advantage of Quadrant

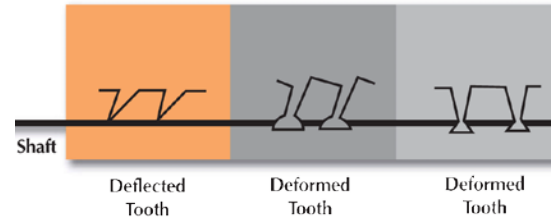
Low CLTE  
Service Temp 260°C (500°F)  
Low Deformation  
Chemical Resistance

### Benefit for Customer

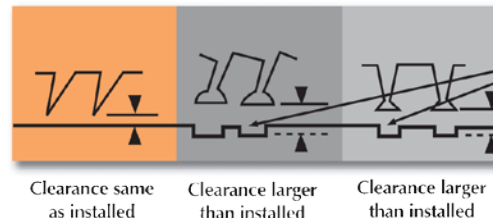
Increase Efficiency Performance  
Longer Lasting Components  
Non destruction parts



Typical Labyrinth Tooth Designs at Installation  
*Installed clearance of polymer teeth is tighter than aluminum seal*



Typical Labyrinth Tooth Designs at Critical Speeds  
*At critical speeds, an angled polymer tooth will deflect with shaft (similar to a cantilever) where the aluminum tooth will deform or "mushroom over"*



Note the galling of the shaft

Typical Labyrinth Tooth Designs After Critical Speeds  
*After exposure to critical speed the thermoplastic tooth will return to original shape due to the plastic "memory" of the engineering thermoplastic while the aluminum tooth remains damaged*

# CPI - Market Application



FEA of an o-ring and back up ring under pressure

## Back Up Rings

### Material

Techtron® PPS

### Current Solution

PEEK, PTFE

### Highlight of Application

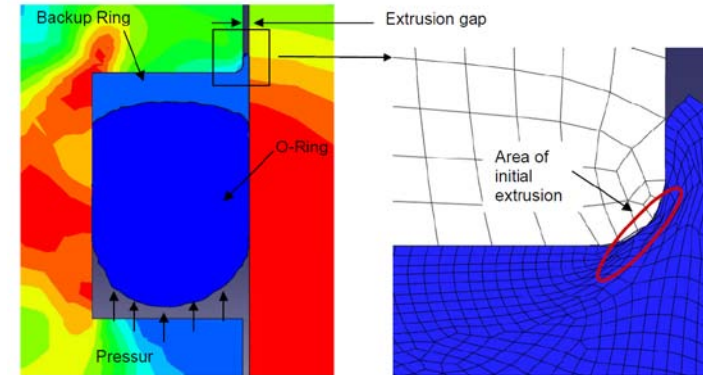
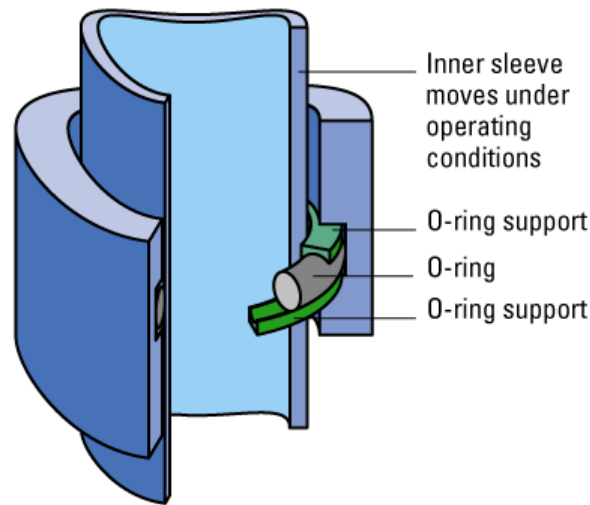
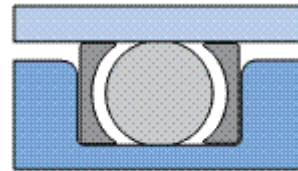
High Load  
Temp Stability  
Seal surface finish  
Wear resistance

### Advantage of Quadrant

Low Deformation  
Low Torque  
Chemical Resistance  
Available in Tube  
Finished Part Solution

### Benefit for Customer

Cost Savings  
Longer Life  
MTBR



Back Up Seal



# CPI - Market Application



## Compressor and Pump Parts

### Material

Ketron® PEEK HPV  
Ketron® PEEK 1030HT



Throat Bushings

### Current Solution

Bronze and Aluminum

### Highlight of Application

Wear Rings  
Throat Collar Bushings

### Advantage of Quadrant

Exceptional Wear  
Service Temp 260°C (500°F)  
Low Deformation  
Chemical Resistance



Case Wear Rings



### Benefit for Customer

Increase Performance  
Longer Lasting Components  
Non destruction parts

