High Performance Foams for Innovative Seat Designs

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The world runs better with Rogers.®

High Performance Foams for Innovative Seat Designs

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Ridership and Market Demands

From the Ridership

Comfort

Ingress / Egress

Individual Placements

From the Customer (Rail Car OEMs & Authorities)

Conformity to Flame, Smoke, and Toxicity Specifications

Durability / Long Life

Deliver Comfort in Smaller Spaces

Optimized Designs and Manufacturing

- Simple-shapes

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The Designer's Challenge

DESIGN OBJECTIVE

To deliver a seat that integrates the needs of the ridership with the requirements of the customer

This translates to a seat which is:

- Light Weight
- Ergonomic
- Long–Term Comfort
- GREEN
- High Performance Characteristics
- Within Budget

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Current Situation

WHERE ARE WE TODAY?

Europe and Asia

Thin profile seats using loaded urethanes with fire blockers that achieve weight reduction at the expense of comfort

North America

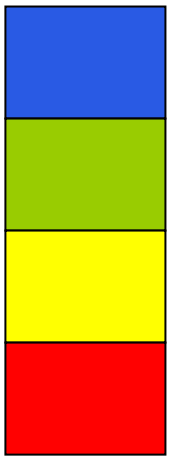
Thick profile loaded urethane and silicone foam cushions are the norm and perceived as more comfortable – but are not necessarily ergonomic or light weight

Pressure Mapping

WHAT IS PRESSURE MAPPING?

A test to determine how a foam seat cushion is able to distribute weight and promote blood flow

Circulation

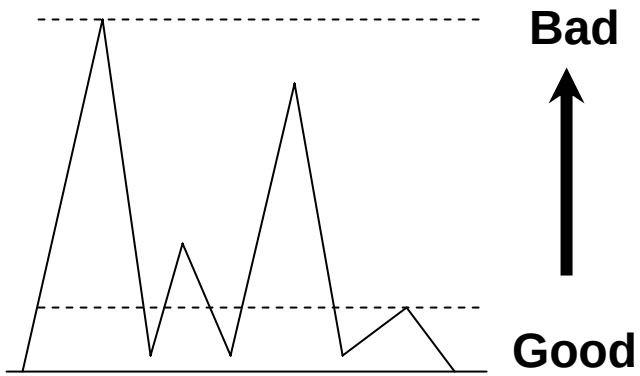


Good

Bad

2-D View

Weight Distribution



3-D View

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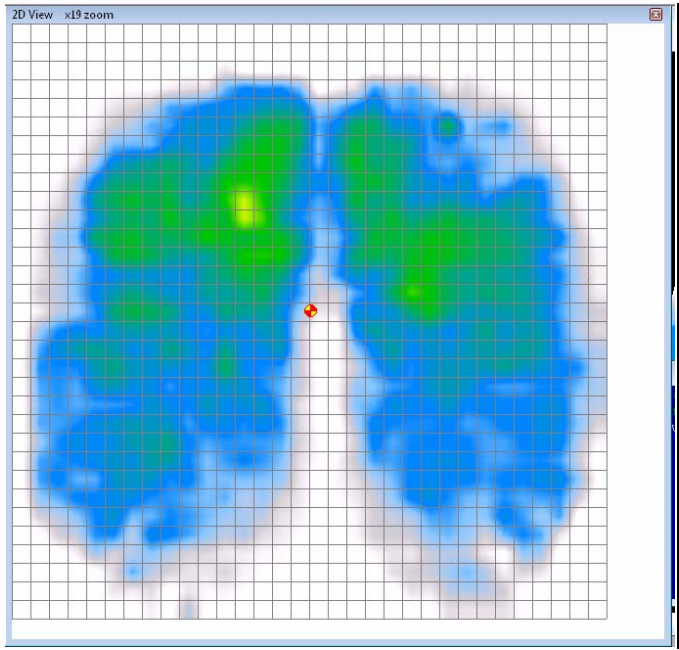
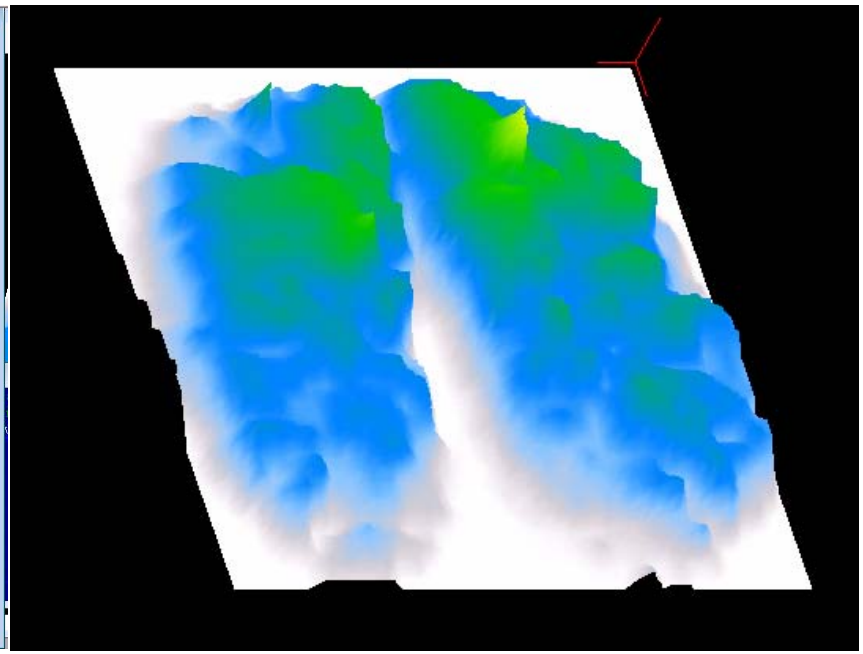
Optional Design Solutions

THICK PROFILE SEAT w/ SILICONE FOAM AND SUSPENSION MEMBRANE



2-D View



3-D View

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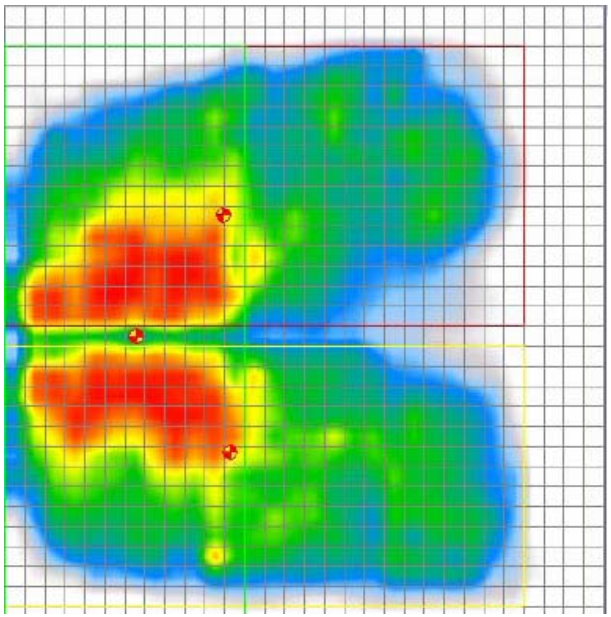
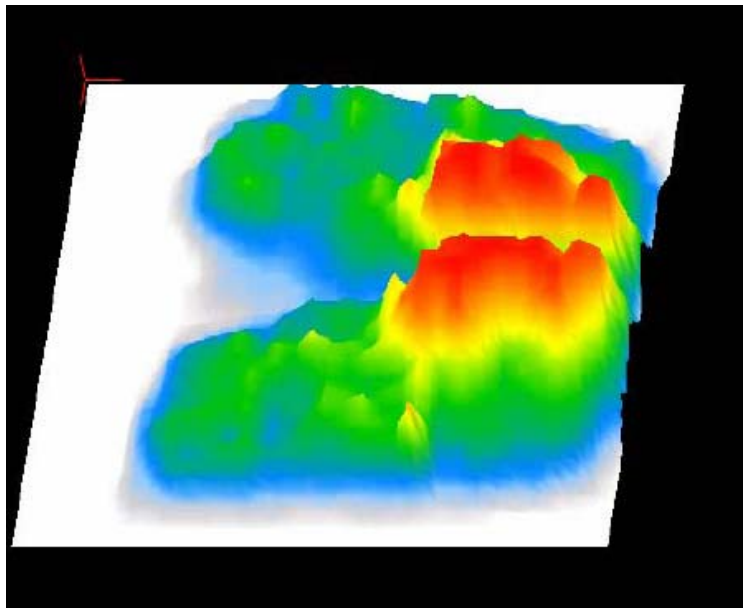
Optional Design Solutions

THIN PROFILE SEAT w/ LOADED URETHANE



2-D View



3-D View

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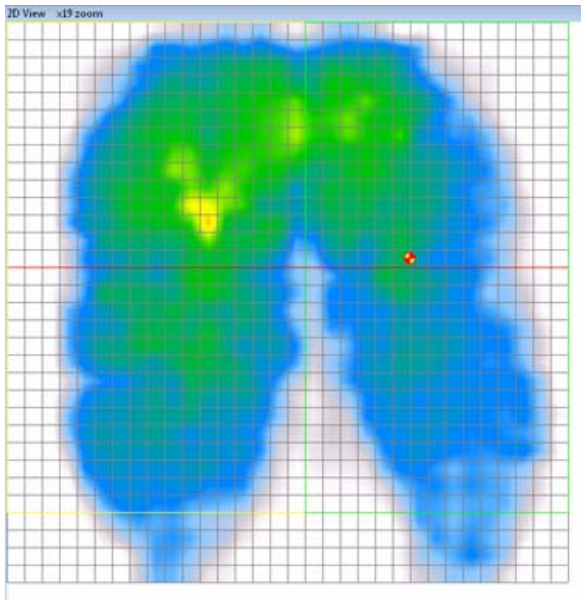
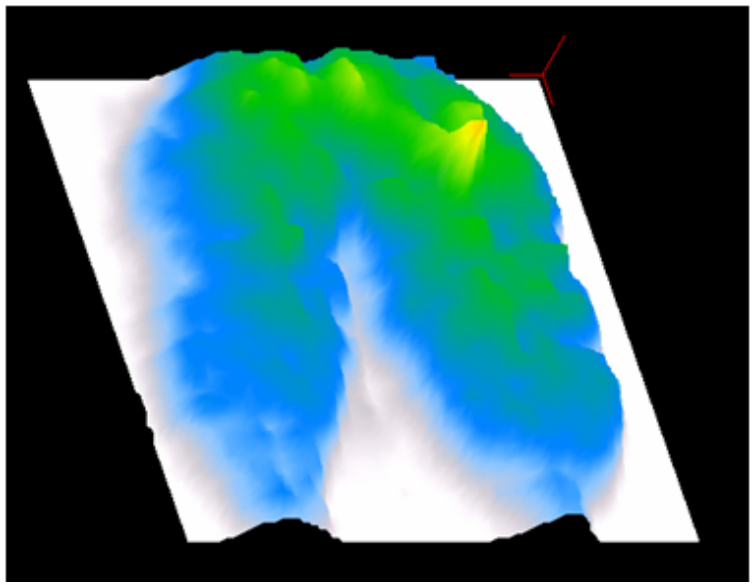
Optional Design Solutions

THIN PROFILE SEAT w/ SILICONE FOAM



2-D View



3-D View

Conclusions

A SYSTEM DESIGN

The designer can achieve all of the requirements by incorporating silicone foam into a complete seating system design

LIGHT WEIGHT	☑
ERGONOMIC	☑
COMFORTABLE	☑
GREEN	☑
SAFE	☑
HIGH PERFORMANCE	☑
BUDGET	☑

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QUESTIONS?

THANK YOU

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