

LOWering

CAPEX *by up to
75% material savings*

with

***Thermoformed
Tube Settler
Systems***

for

***Enhanced
Sedimentation***



Pavel Sorejs

Regional Sales Manger,
Europe , Middle East, Africa
Water & Waste Water

BRENTWOOD



Applications

Purpose and benefits

**Thermoforming vs
Extrusion**

**Thermoformed Tube
Setters**

Structural Testing

**Thermoformed vs
Extruded design**

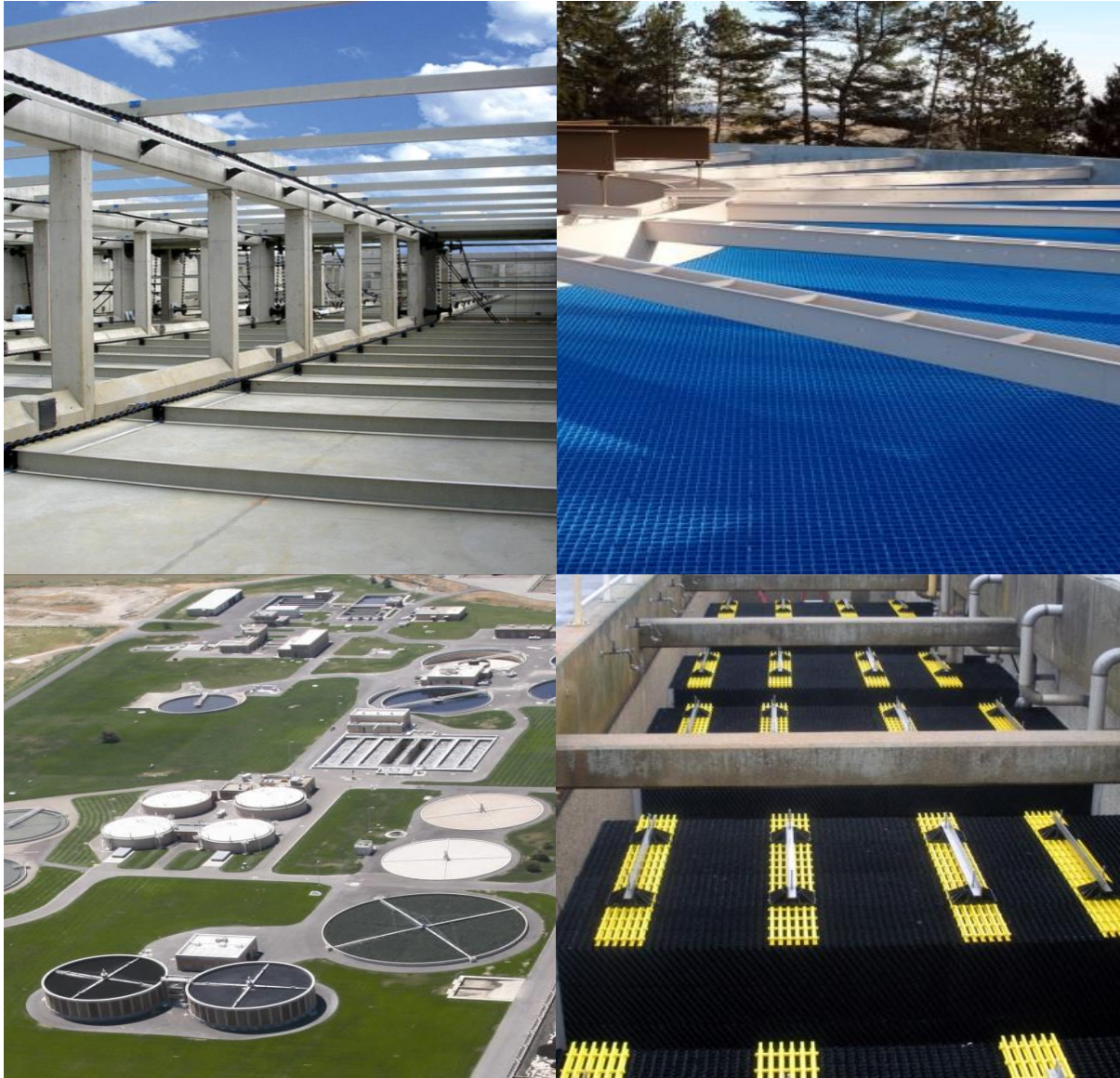
Case study

.. enhance settling via higher application
overflow rates

Objectives



BRENTWOOD & ARAMCO



Global Manufacturing Presence



Lebanon, PA, USA

HEADQUARTERS Reading, PA, USA



Vadodara, India



Surprise, AZ, USA



Hope, AR, USA



Horovice, Czech Republic

Rayong, Thailand

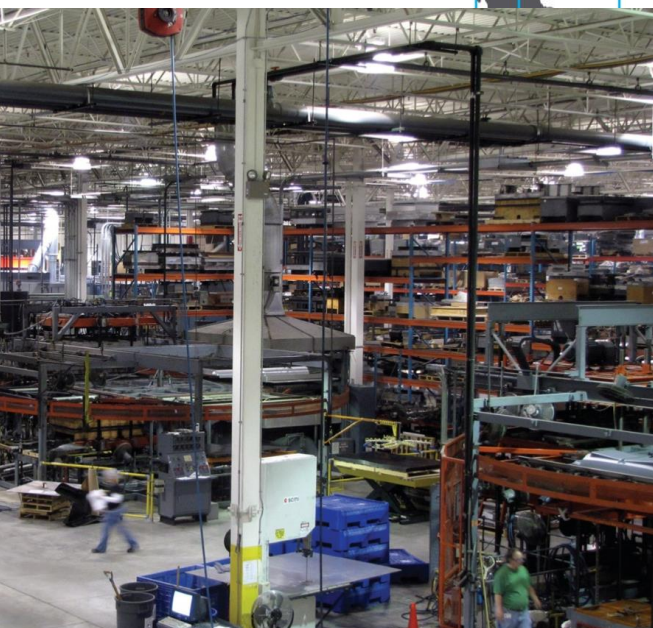
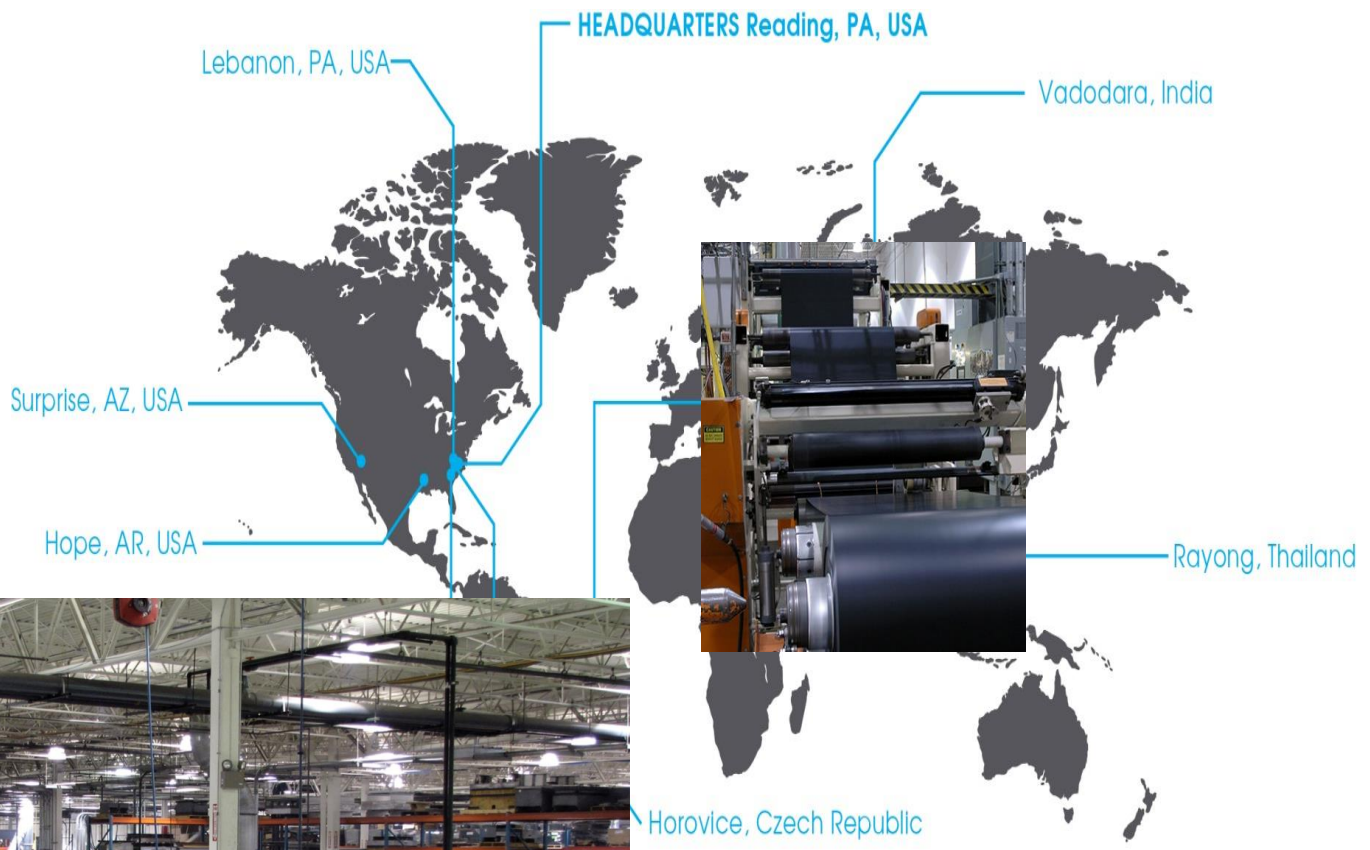


Martinsburg, WV, USA

Denver, PA, USA



Currently 8 manufacturing facilities worldwide



- 
1. United States of America
 2. Argentina
 3. Australia
 4. Austria
 5. Bahamas
 6. Belgium
 7. Brazil
 8. Brunei
 9. Canada (9 provinces)
 10. Chile
 11. China
 12. Colombia
 13. Czech Republic
 14. Egypt
 15. **England**
 16. Finland – Konaflex Oy, Vanta
 17. France
 18. Georgia
 19. Germany
 20. Greece
 21. Guam
 22. Hong Kong
 23. **IRELAND**
 24. India,
 25. Indonesia
 26. Israel
 27. Italy
 28. Japan
 29. Liechtenstein
 30. Lithuania
 31. Luxembourg
 32. Malaysia
 33. Mexico
 34. Mongolia
 35. Morocco
 36. Netherlands
 37. New Zealand
 38. Norway
 39. Papua New Guinea
 40. Philippines
 41. Poland
 42. Portugal
 43. Puerto Rico
 44. Saudi Arabia
 45. Scotland
 46. Singapore
 47. Slovakia
 48. South Korea
 49. Sri Lanka
 50. St. Kitts, West Indies
 51. Spain
 52. Sweden
 53. Switzerland
 54. Taiwan
 55. Thailand
 56. Trinidad and Tobago
 57. **Turkey**
 58. United Arab Emirates
 59. Wales
 60. Venezuela
 61. Virgin Islands

Tube Settler Applications

Potable water clarification

Membrane pre-treatment

Desalinization pre-treatment

Backwash reclamation

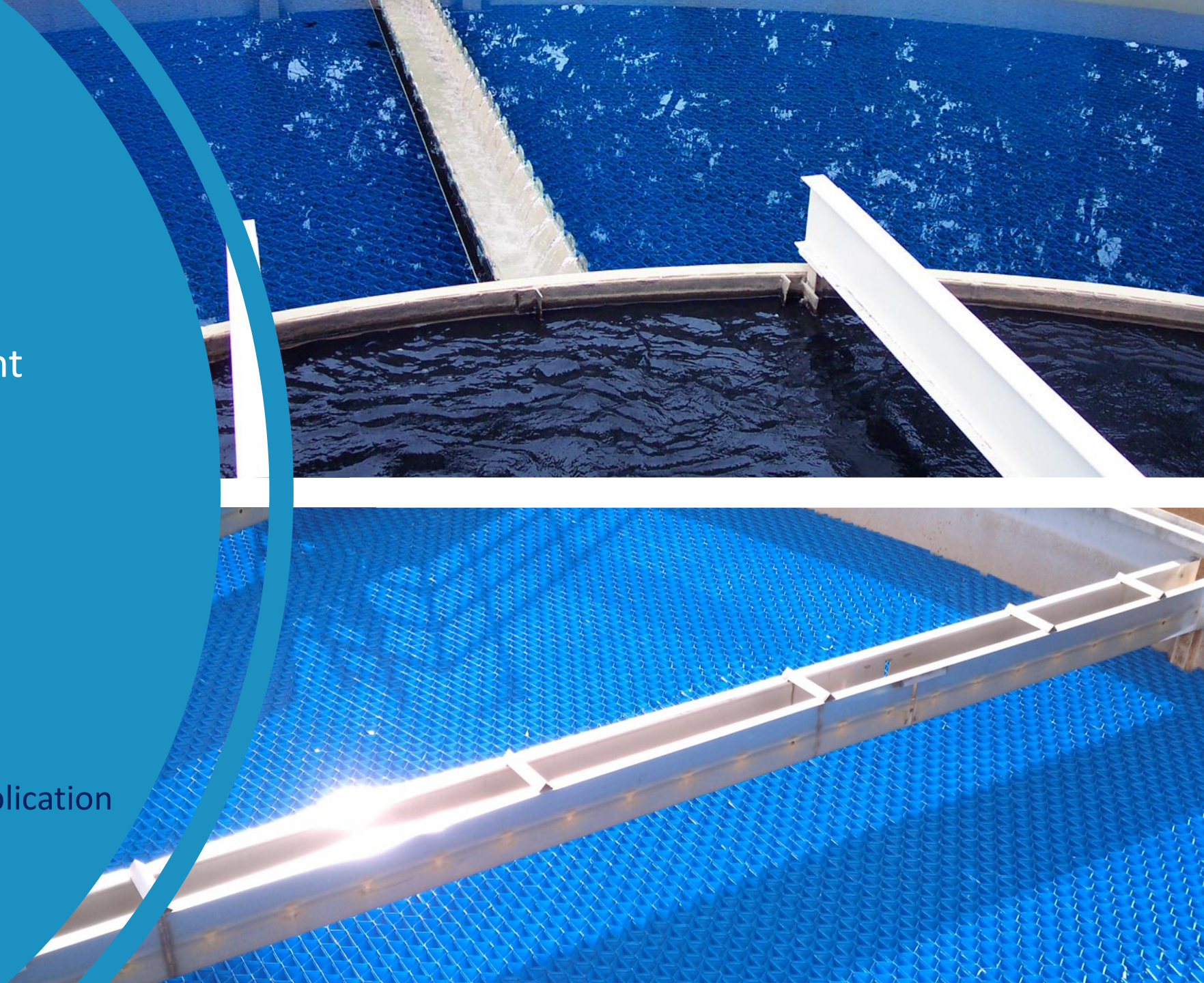
Resin recovery

Wastewater secondary and
tertiary clarification

Phosphorus removal

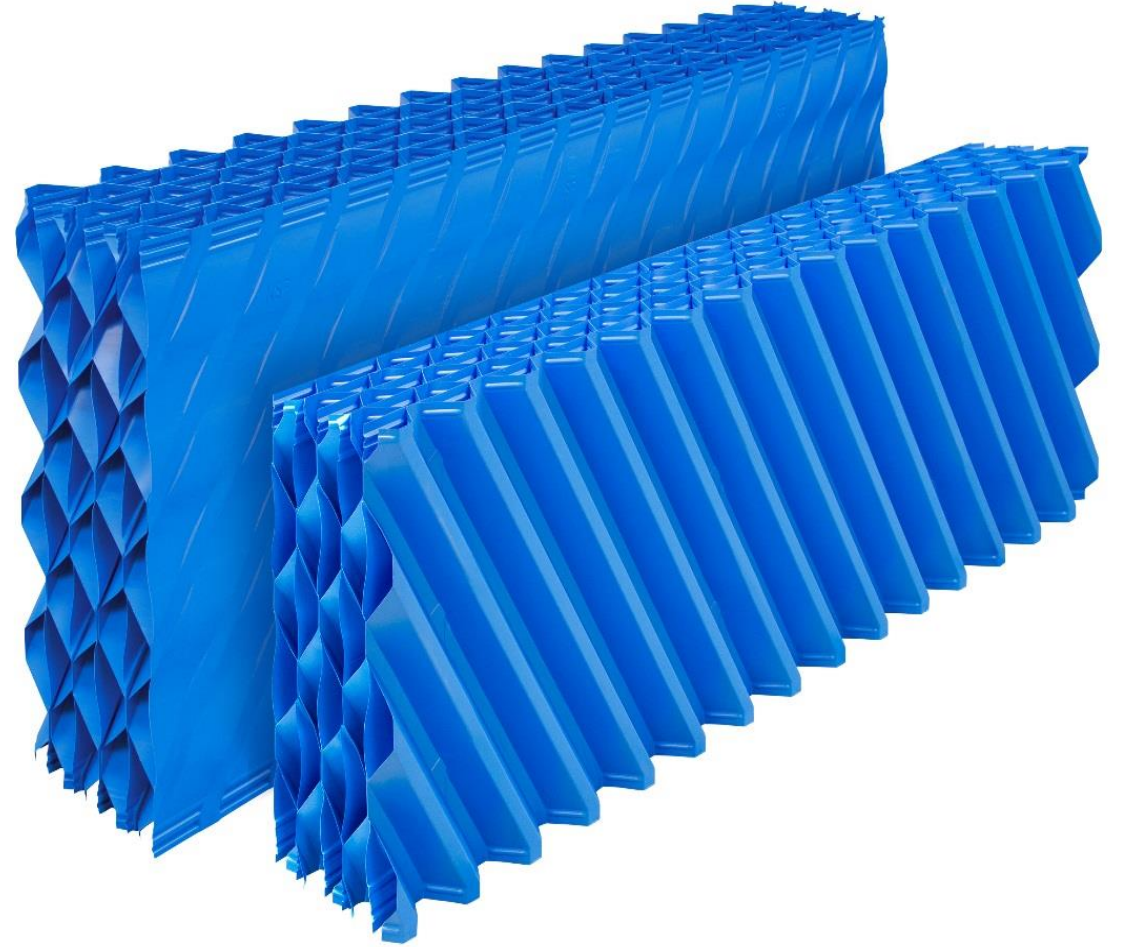
Acid mine drainage (AMD)

...enhance settling via higher application
overflow rates



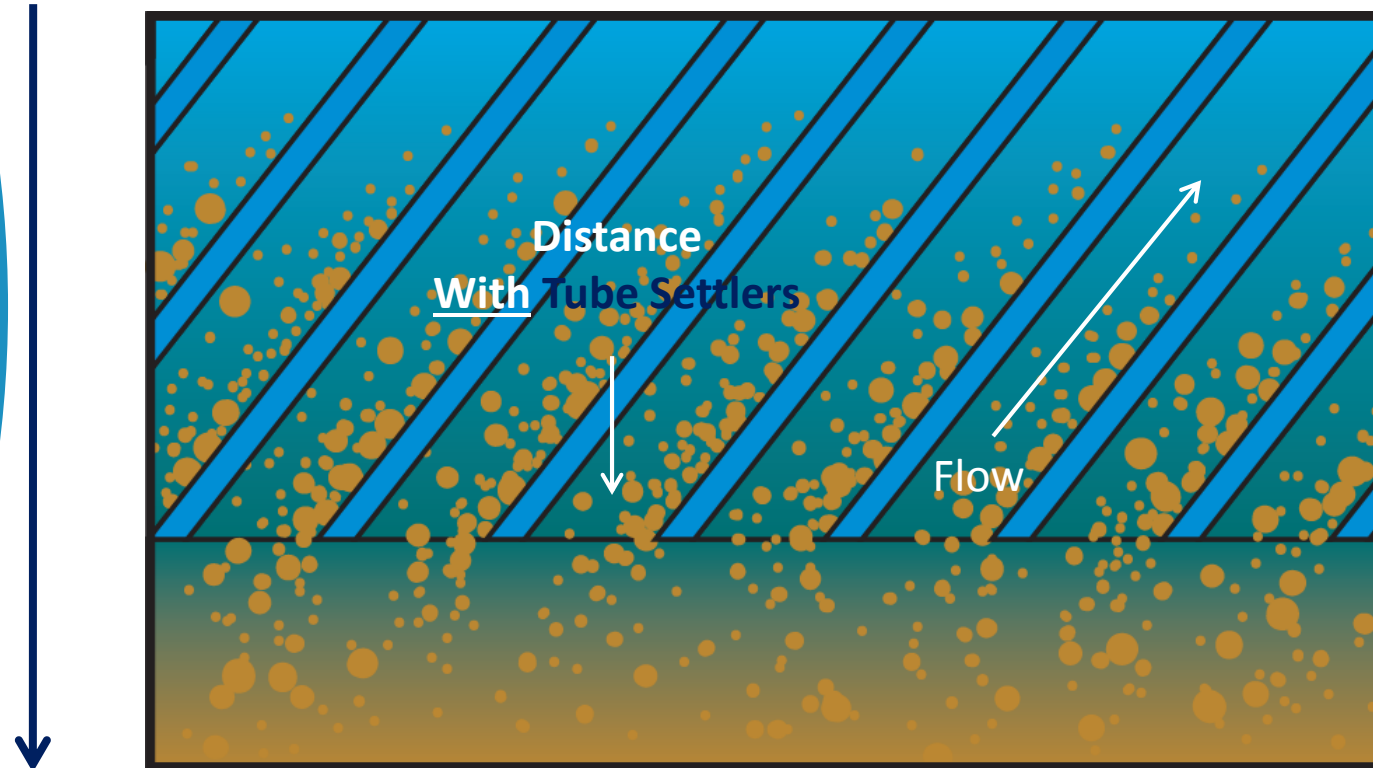
Tube Settler & “Lamellas”

Both increase the settling capacity of circular clarifiers and/or rectangular sedimentation basins by reducing the vertical distance a floc particle must settle before agglomerating to form larger particles.



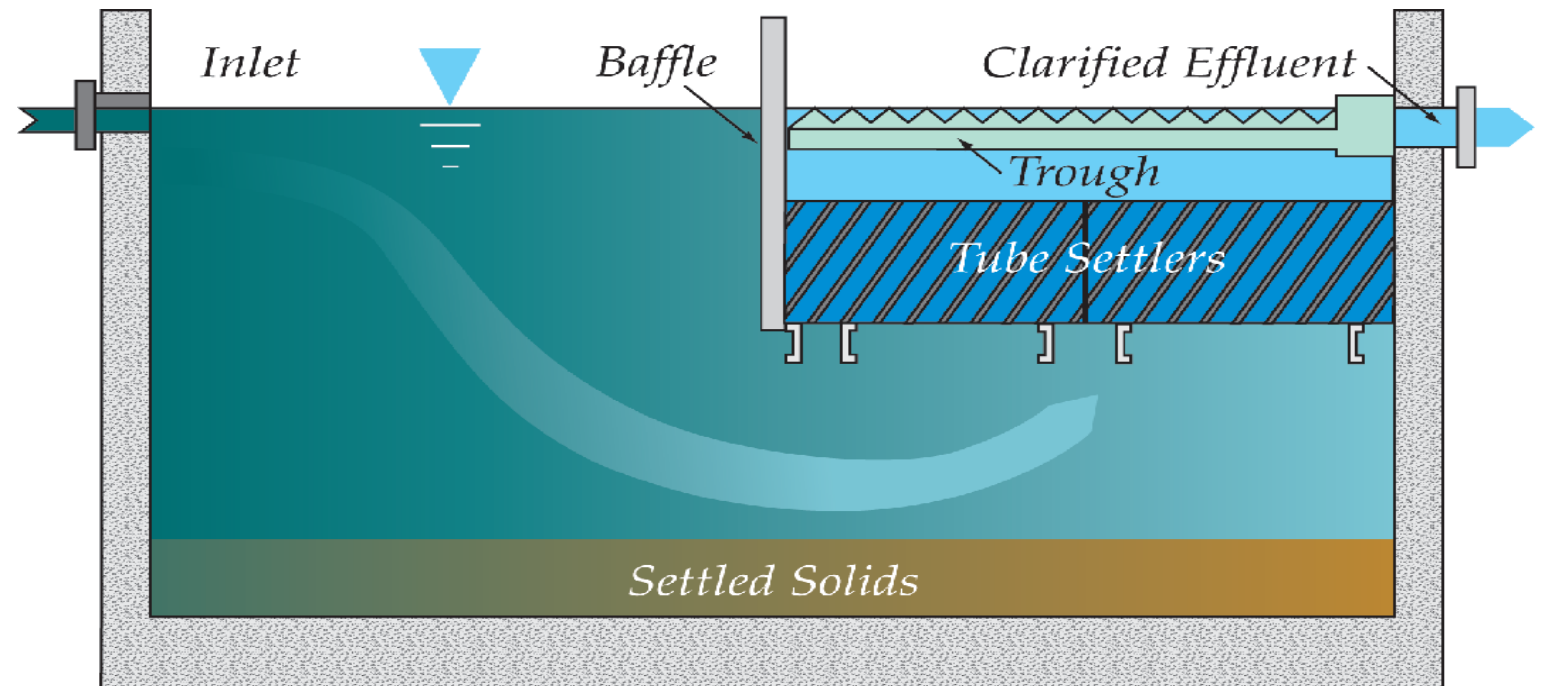
Reduce the distance the particle has to drop to be removed from suspension

Distance
Without
Tube Settlers

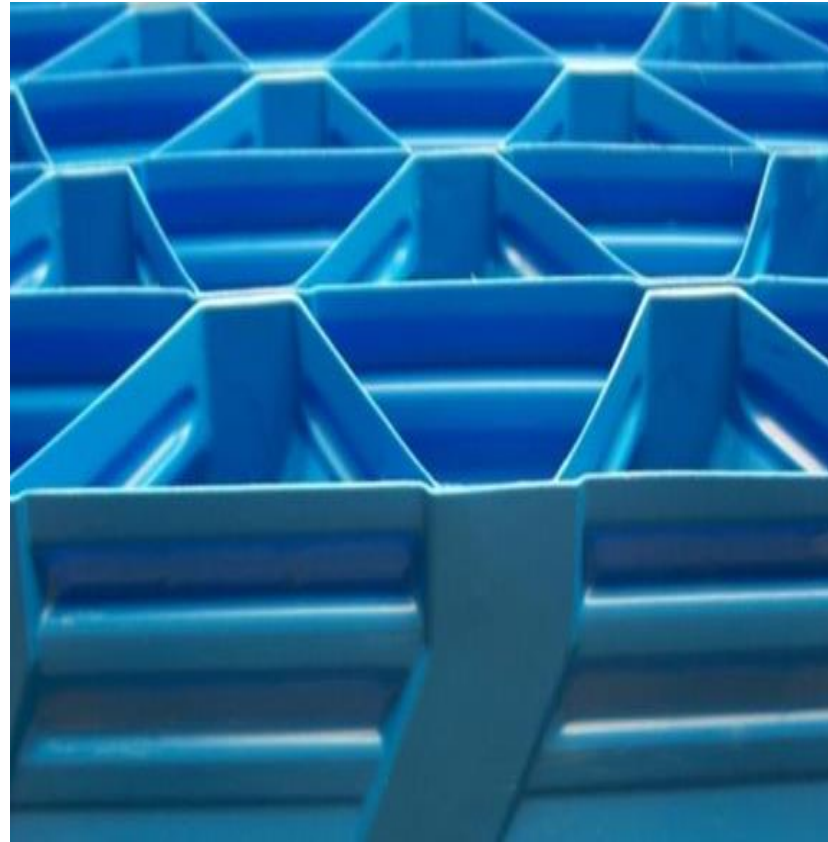


Tube Settler Process Benefits

- Particle settling depth is less than conventional clarifiers/basins
- Expand the settling capacity of new or existing clarifiers/basins
- Higher flow rates
- Less frequent filter backwash
- Moderate turbidity spikes



Thermoforming vs Extrusion



Thermoformed



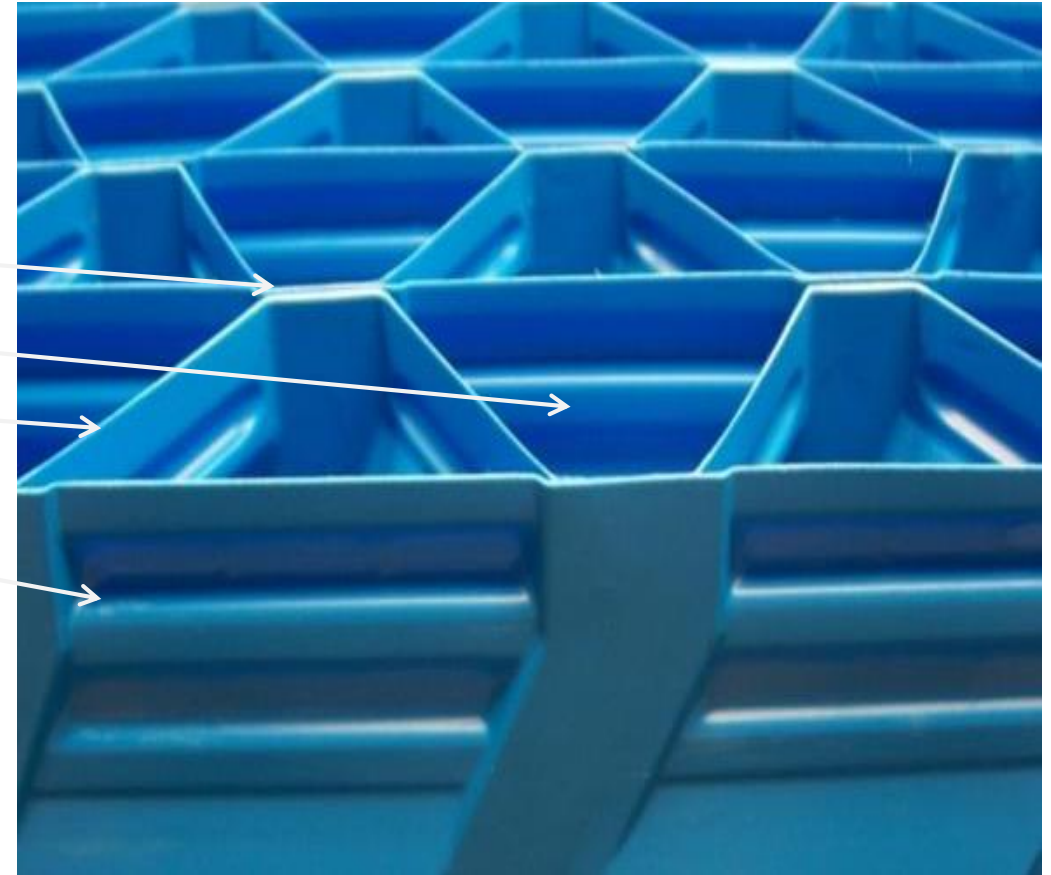
Extruded

Designed for Maximum Structural Integrity

Designed for Maximum Structural Integrity

- Precise Alignment
- Dedicated Glue Joints
- Edge Return
- Structural Ribs
- Wave Sheet

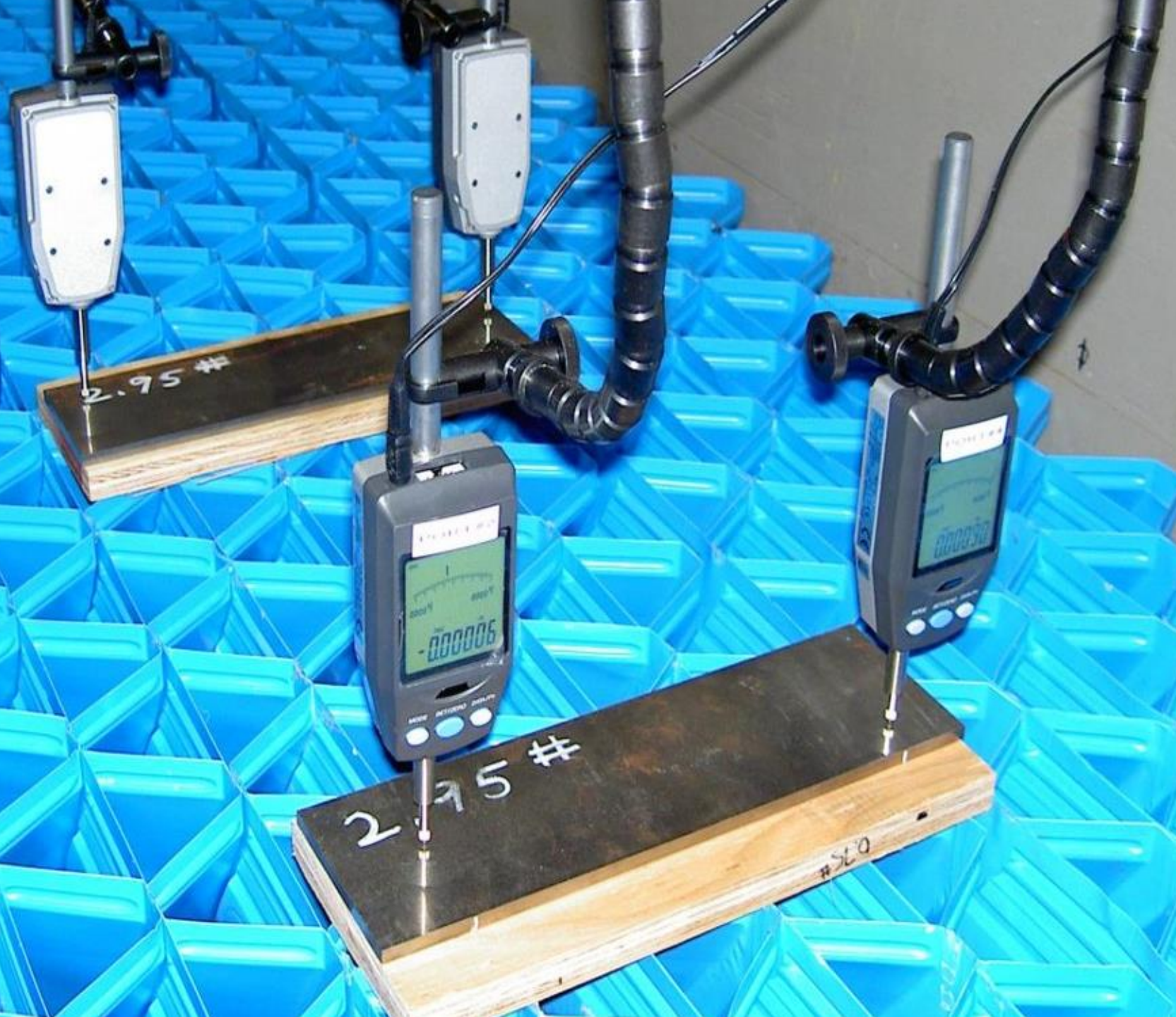
The Brentwood advantage: uniform load of 15-25 lbs/ft² & point load of 250 lbs on 1ft² (73-146 kgs/m² & point load of 113 kgs on .0929 m²)



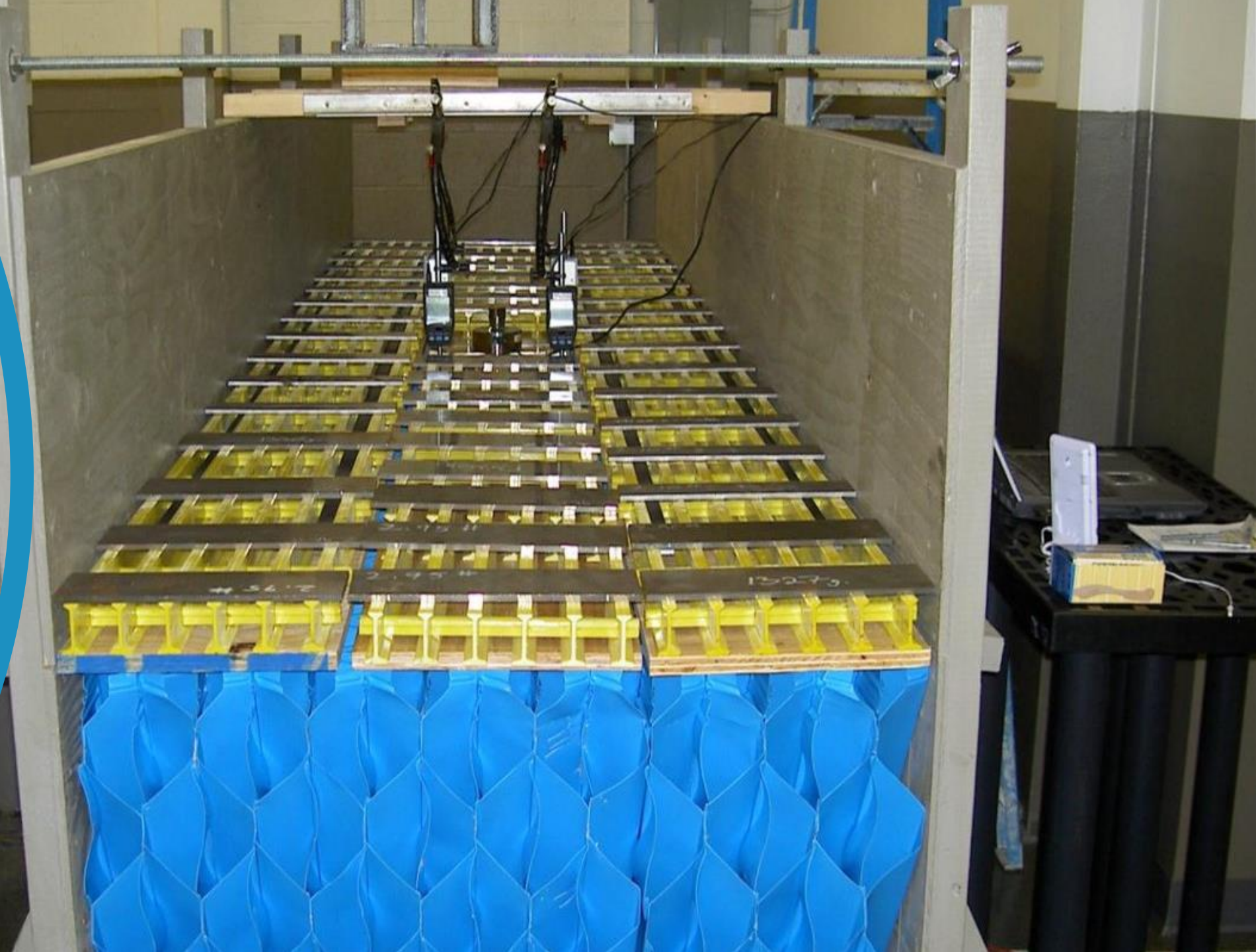
**Brentwood
Structural Testing
IFR-6024 – Three
nested packs**



**Brentwood
Structural Testing
IFR-6024 – Initial
Settings**



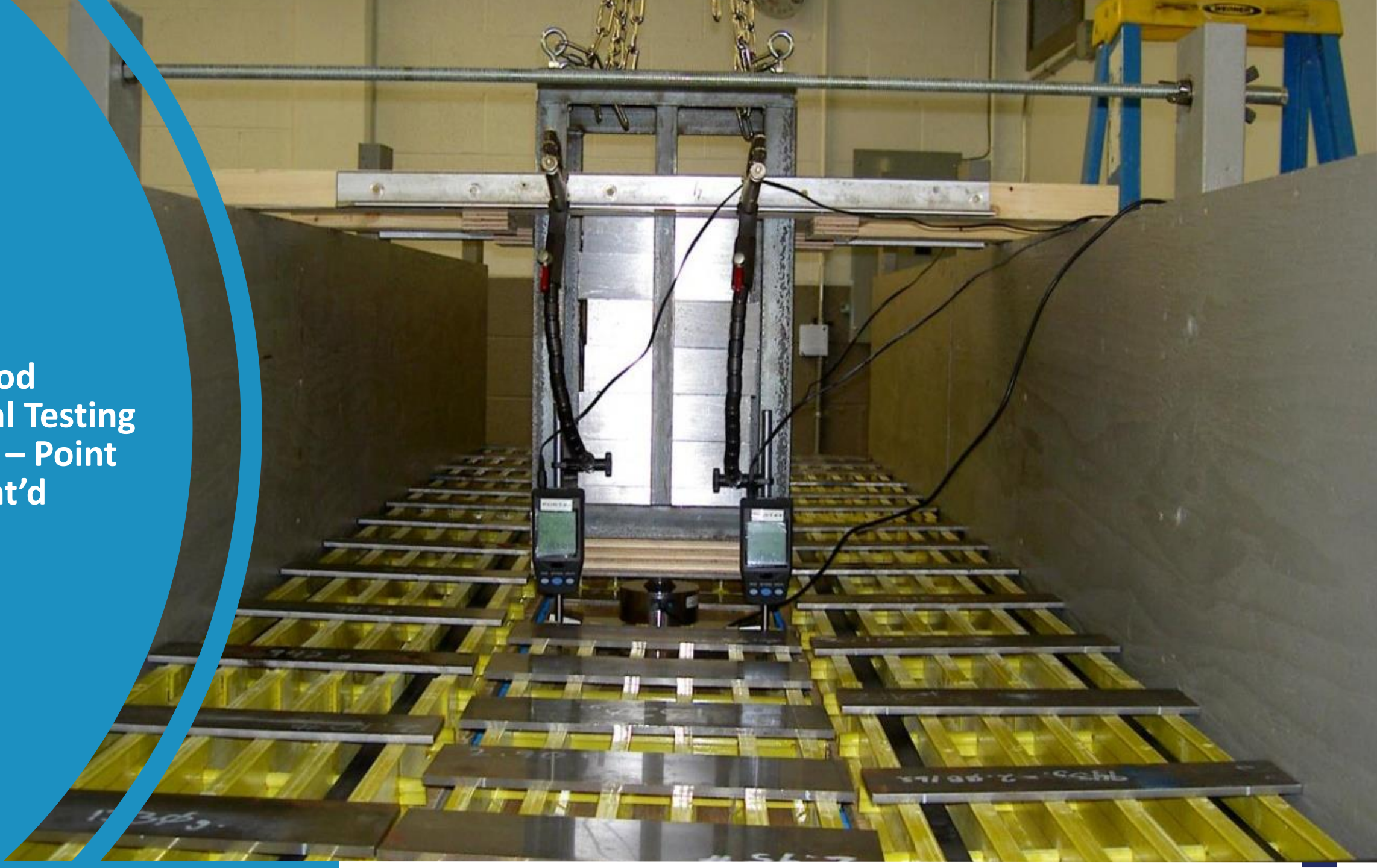
**Brentwood
Structural Testing
IFR-6024 –
Uniform Load
Added**



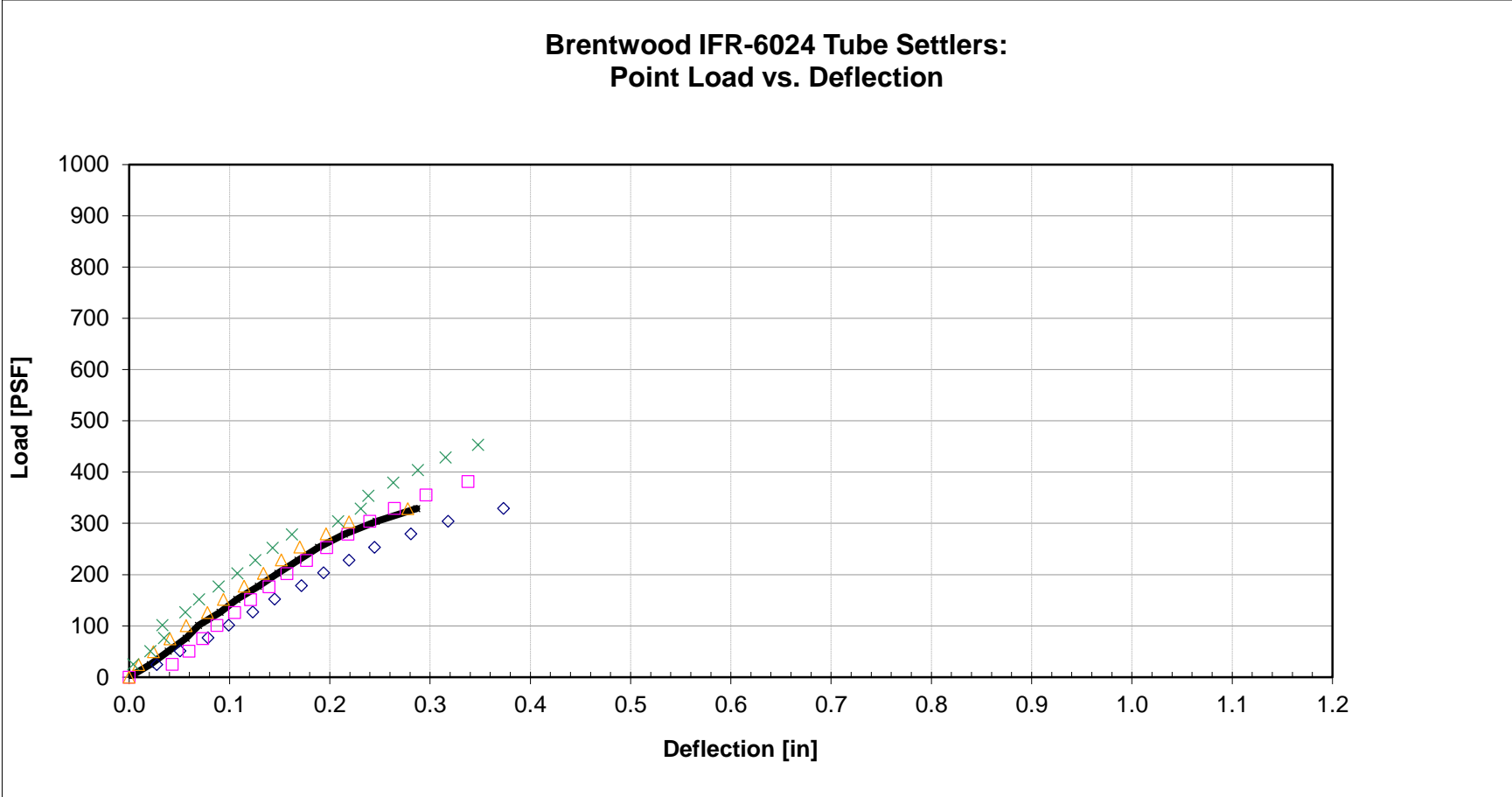
**Brentwood
Structural
Testing IFR-6024
– Point Load
Start**



**Brentwood
Structural Testing
IFR-6024 – Point
Load Cont'd**



Brentwood Tube Settler Structural Integrity Graph



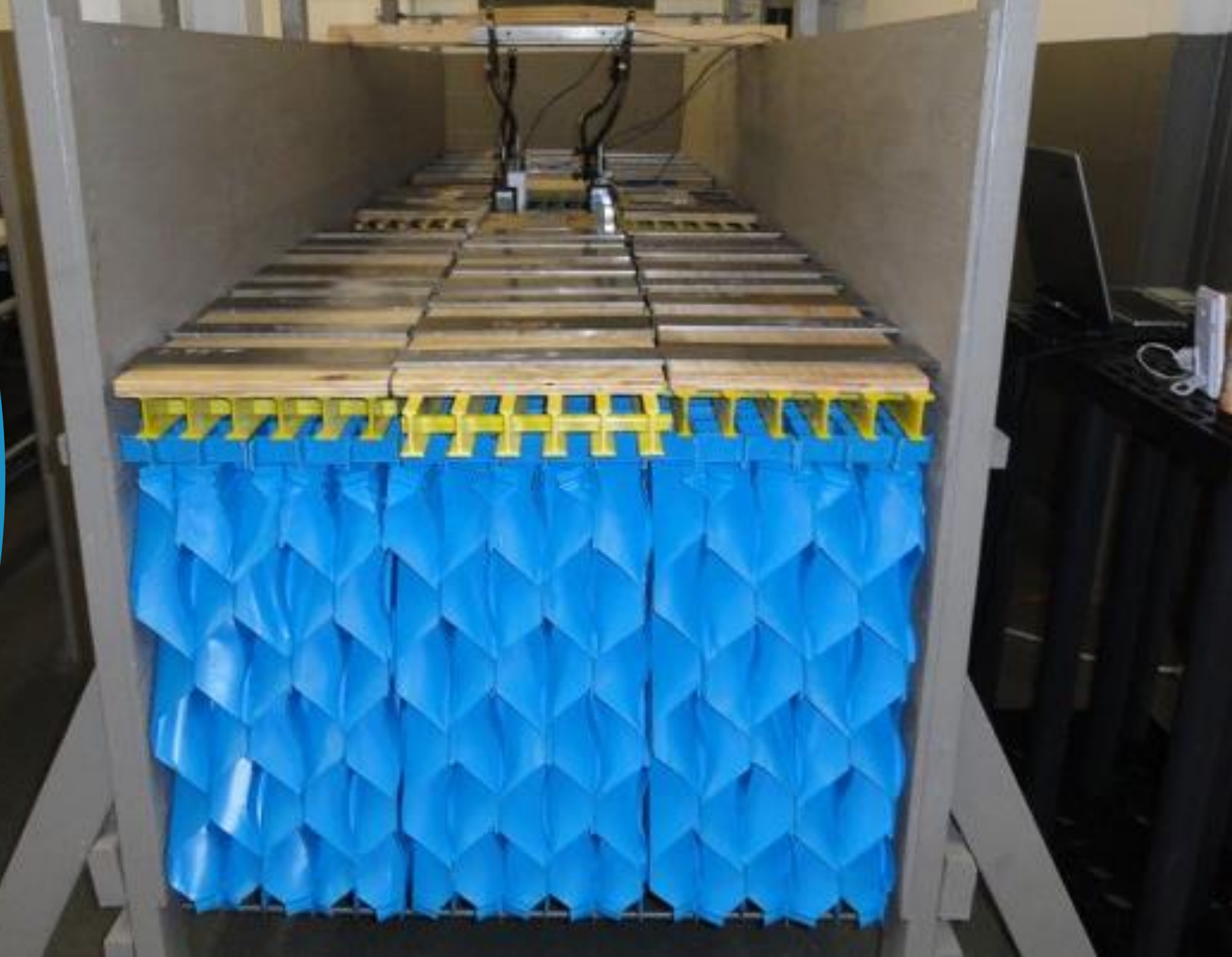
**IFR-6024 – Triple
Module with
AccuGrid® Test**



**IFR-6024 – Triple
Module with
AccuGrid[®] Test**




IFR-6024 –
Triple
Module with
AccuGrid[®]
Test




**IFR-6024 –
Triple
Module with
AccuGrid[®]
Test**





**IFR-6024 –
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**IFR-6024 –
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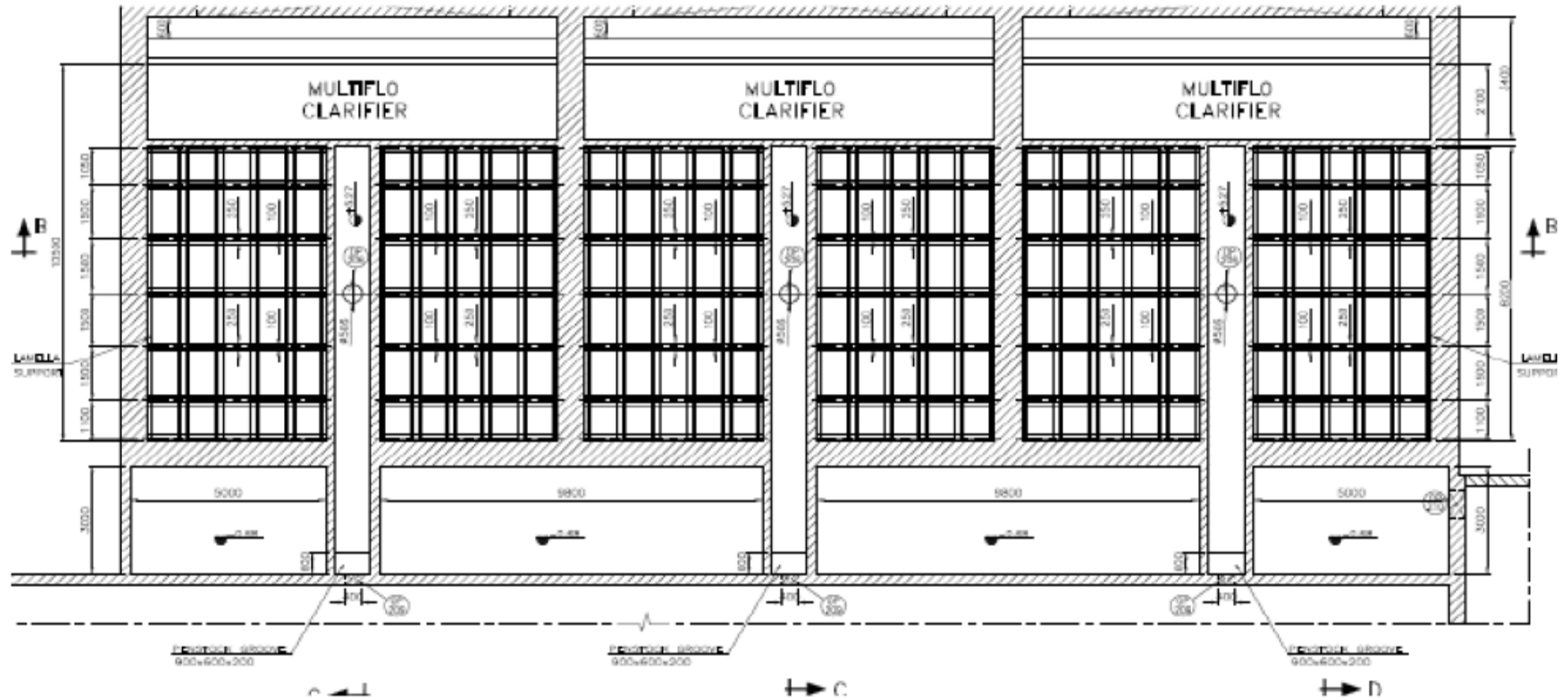
**IFR-6024 – Triple
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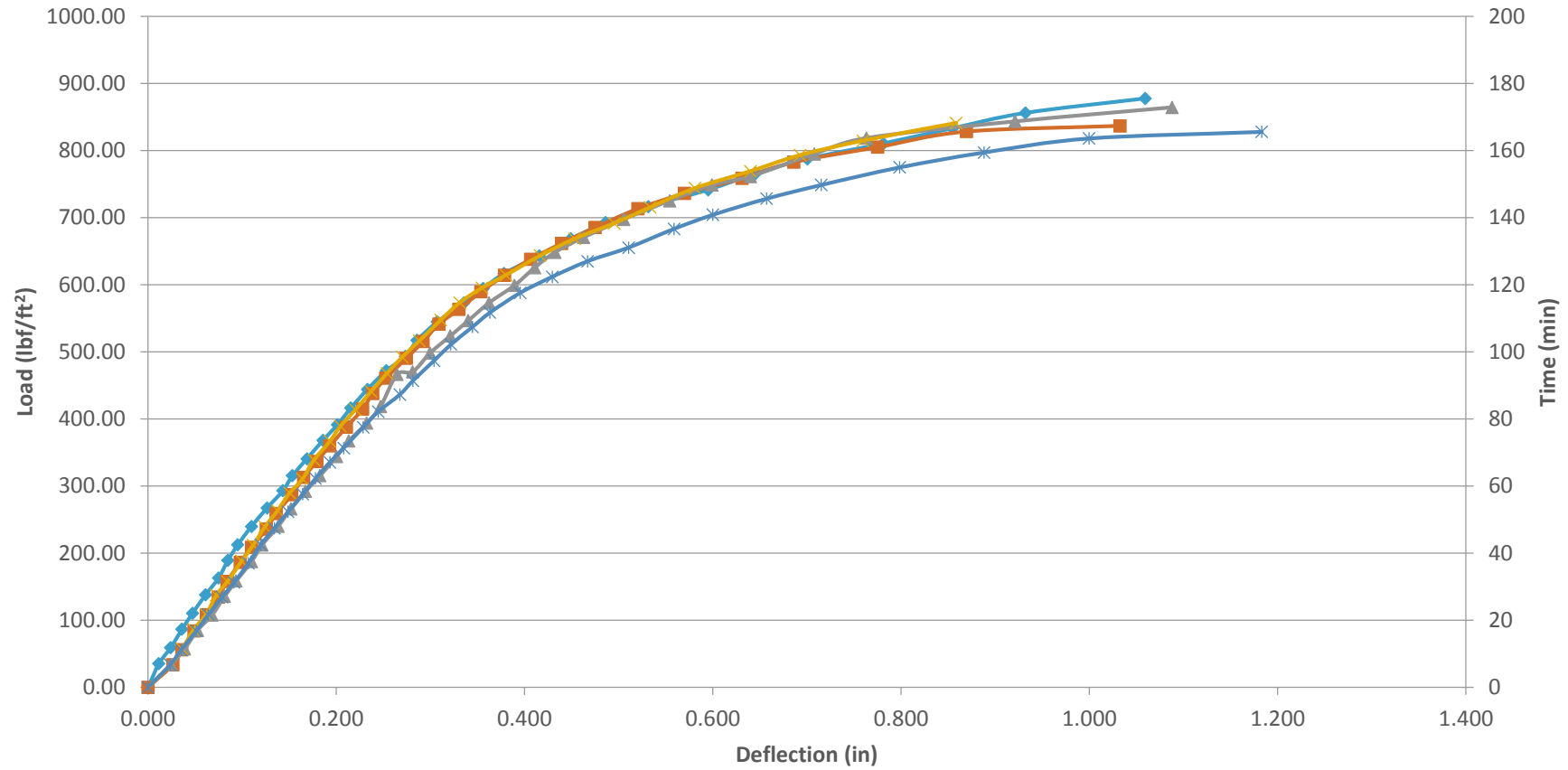


3. Extruded profile designed in rectangular clarifiers



Brentwood Tube Settler Structural Integrity

IFR-6024 Tube Settler Module Average Deflection
Nested with Accugrid Module Test

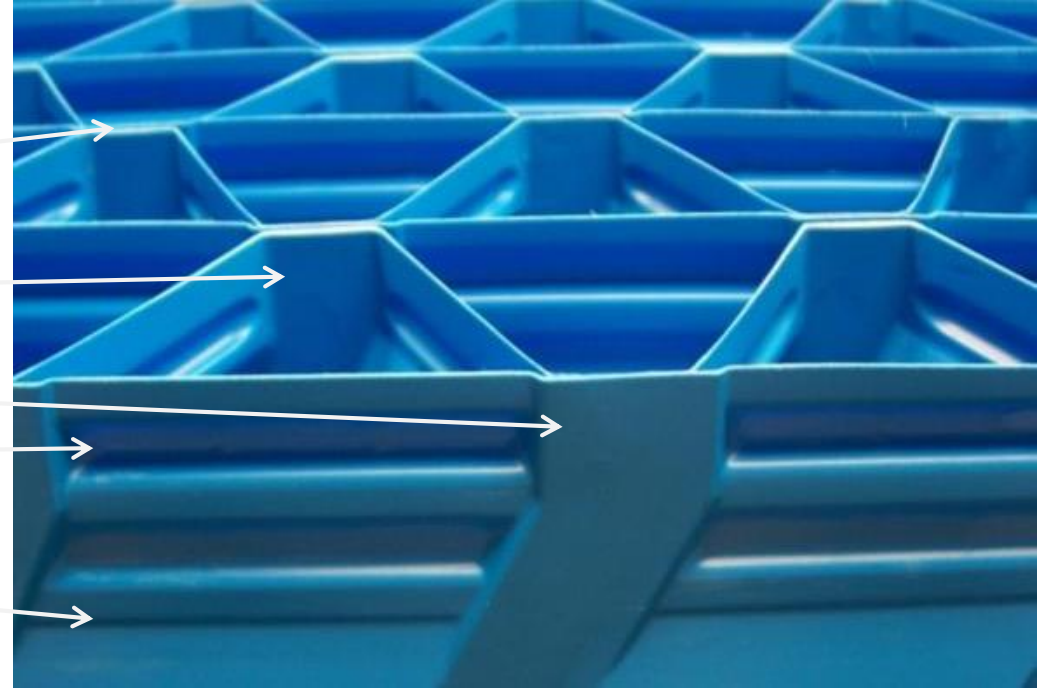


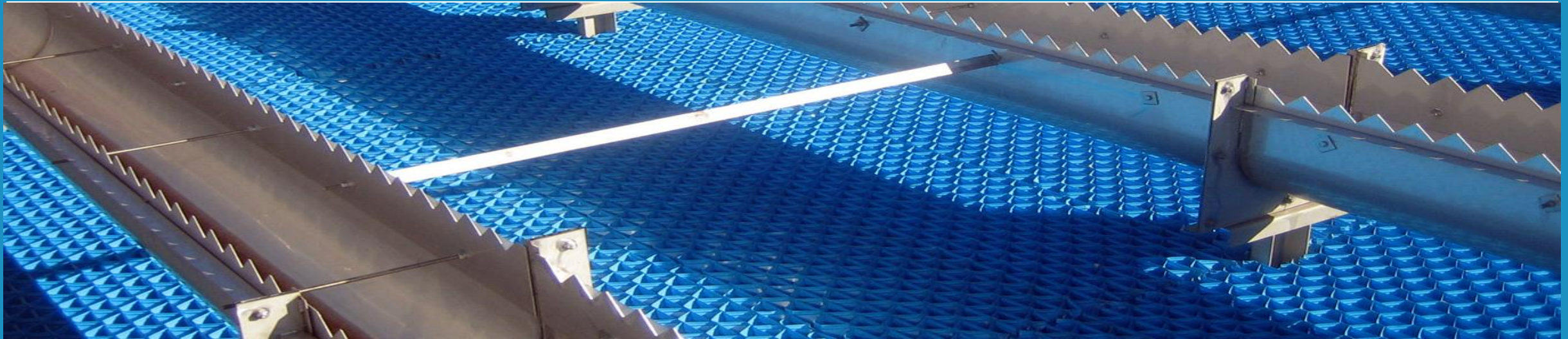
Brentwood Tube Settlers

Designed for Maximum Structural Integrity

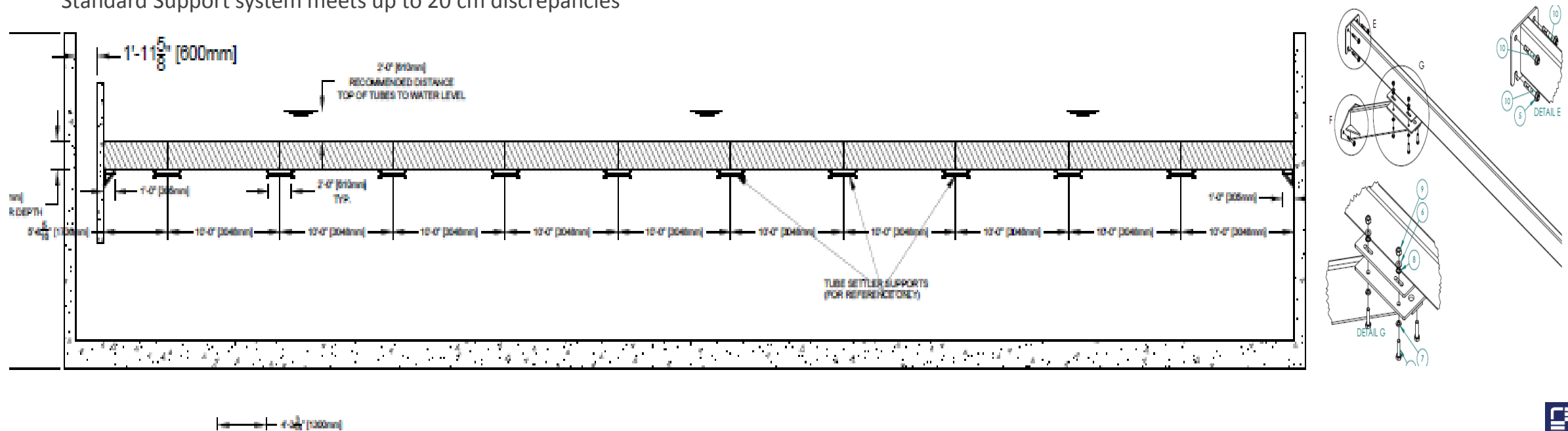
- Precise Alignment
- Dedicated Glue Joints
- Edge Return
- Structural Ribs
- Wave Sheet

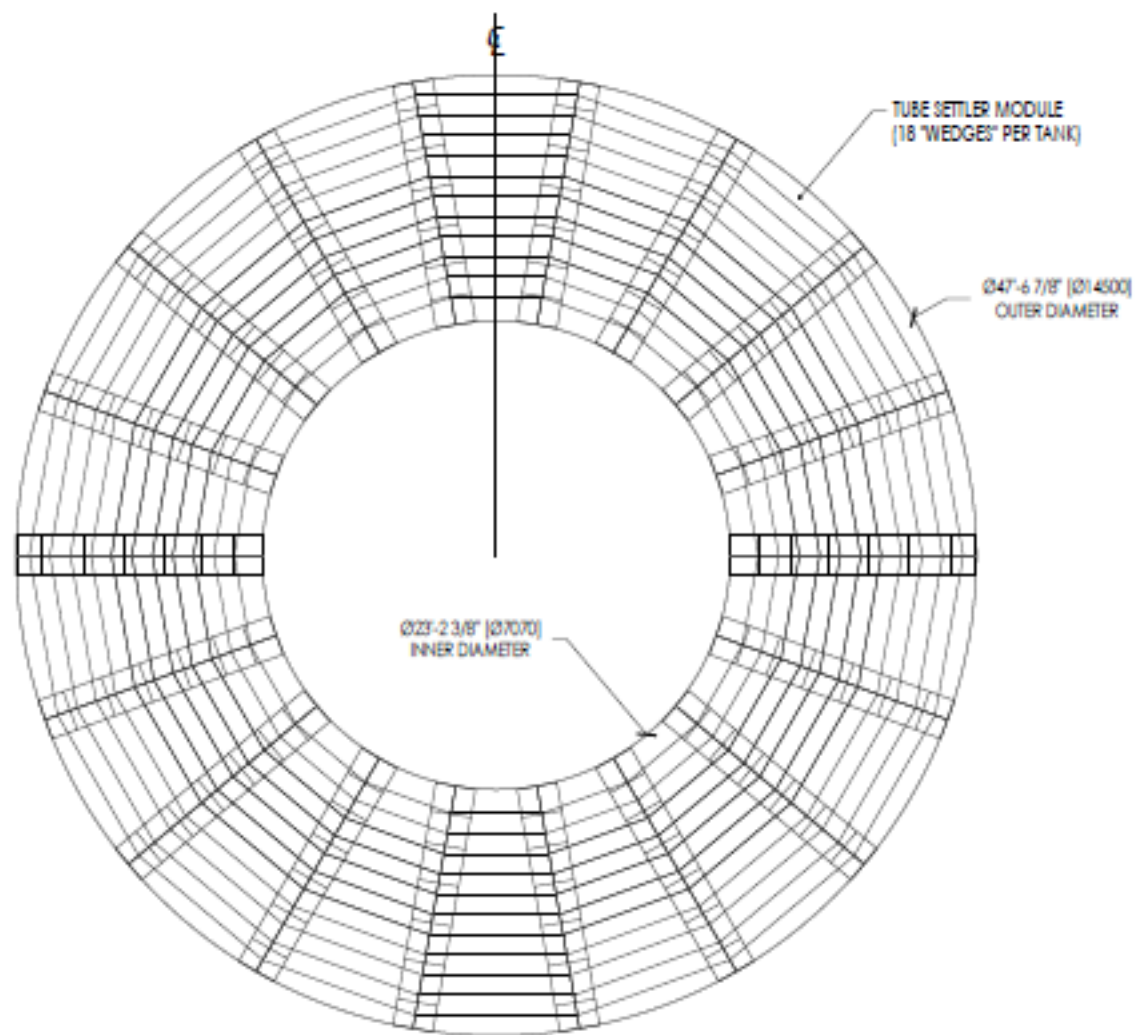
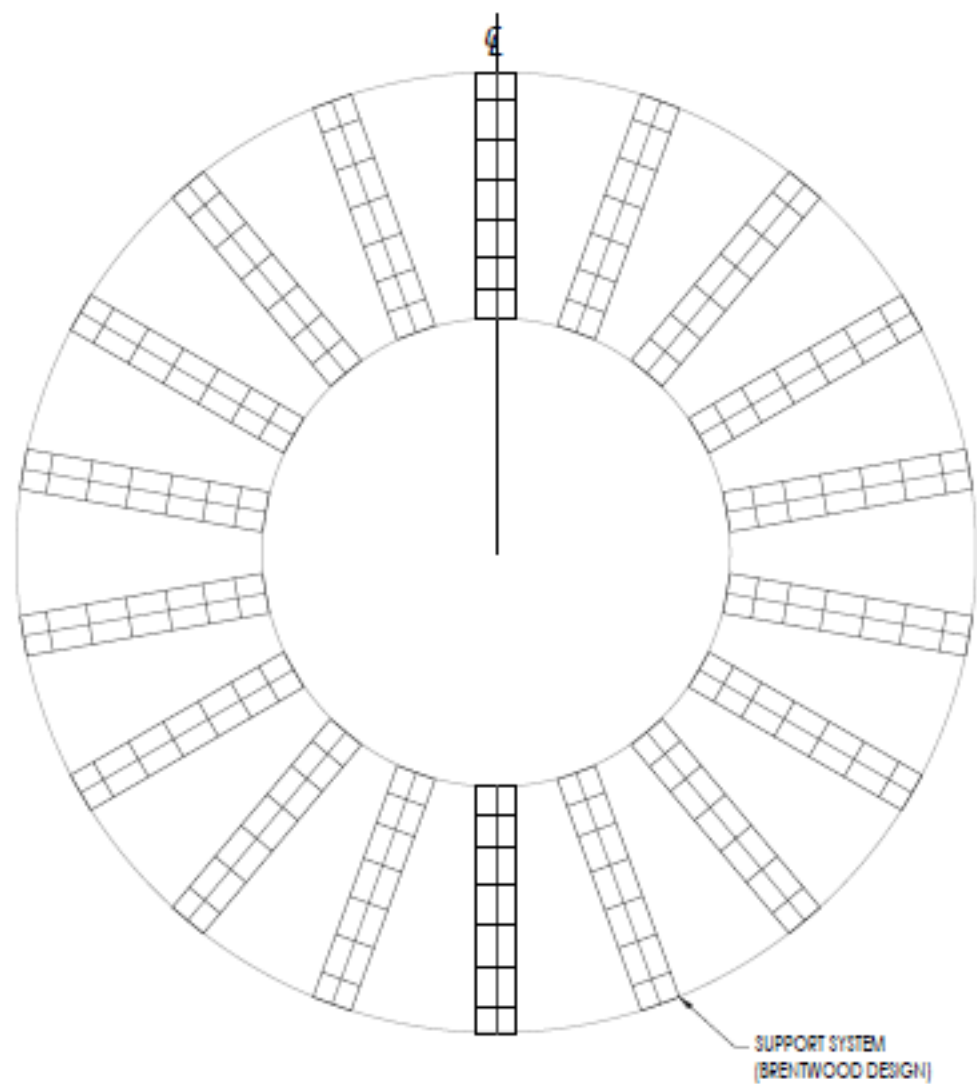
The Brentwood advantage: allows to meet a design load of **275 kg/0.1m²**



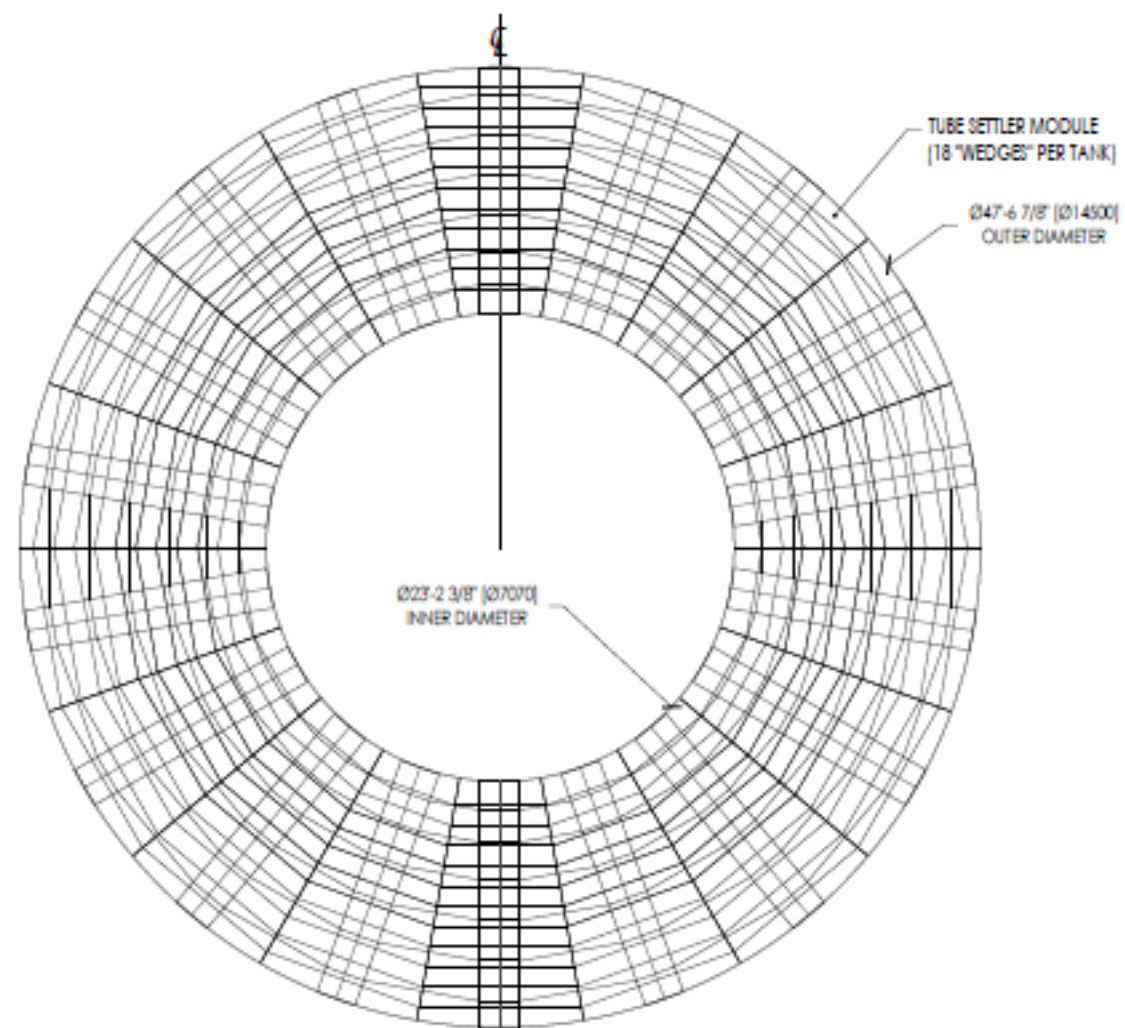
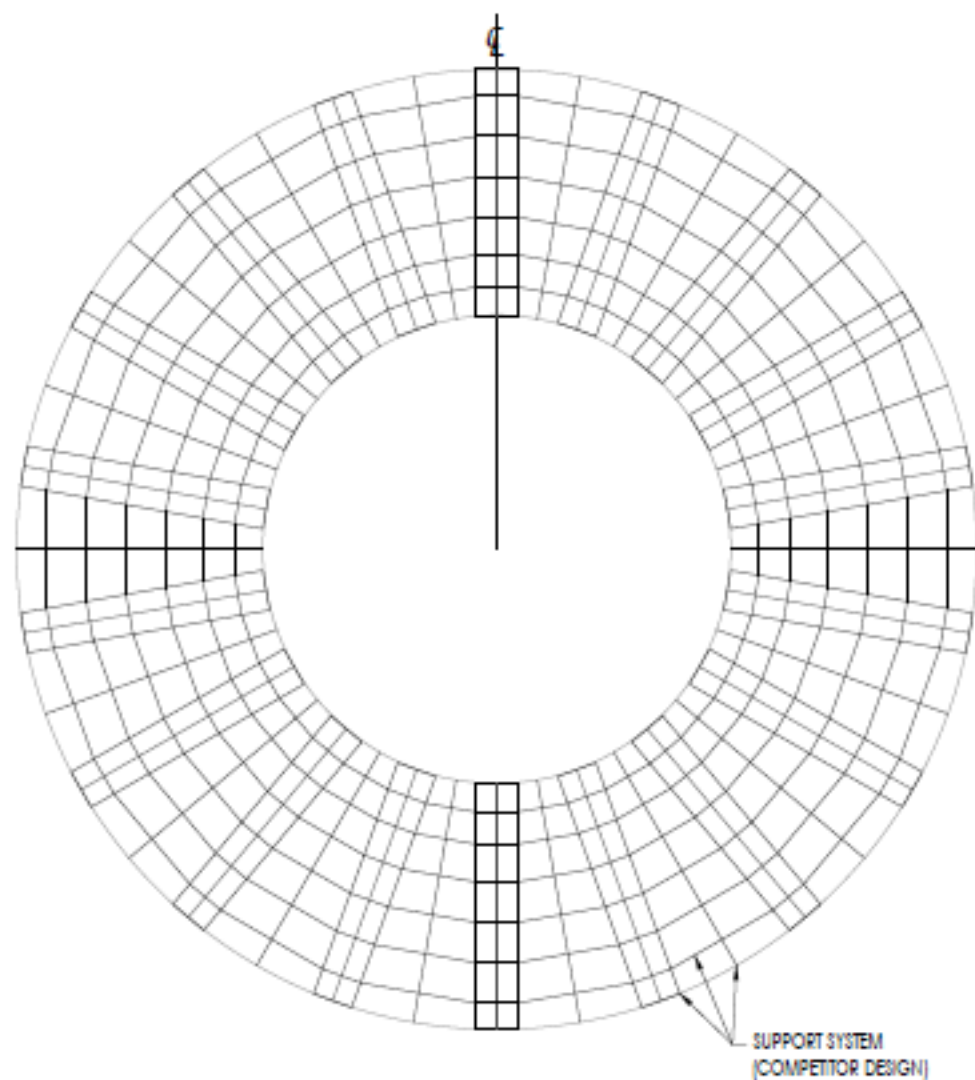


Precisely designed engineered design allowing to apply a point load of **275 kg/0.1m²** over the unsupported mid span
 Standard Support system meets up to 20 cm discrepancies





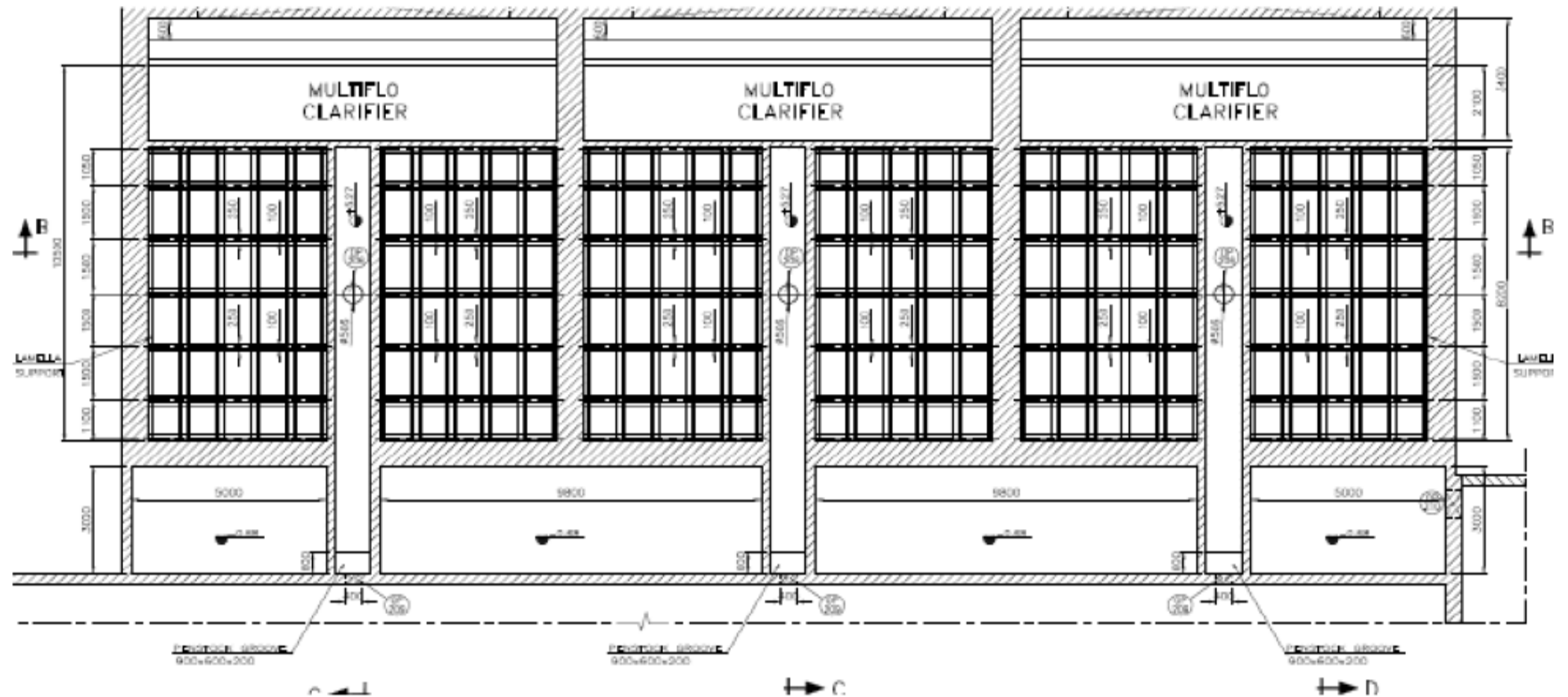
PLAN VIEW: BREITWOOD DESIGN
NTS



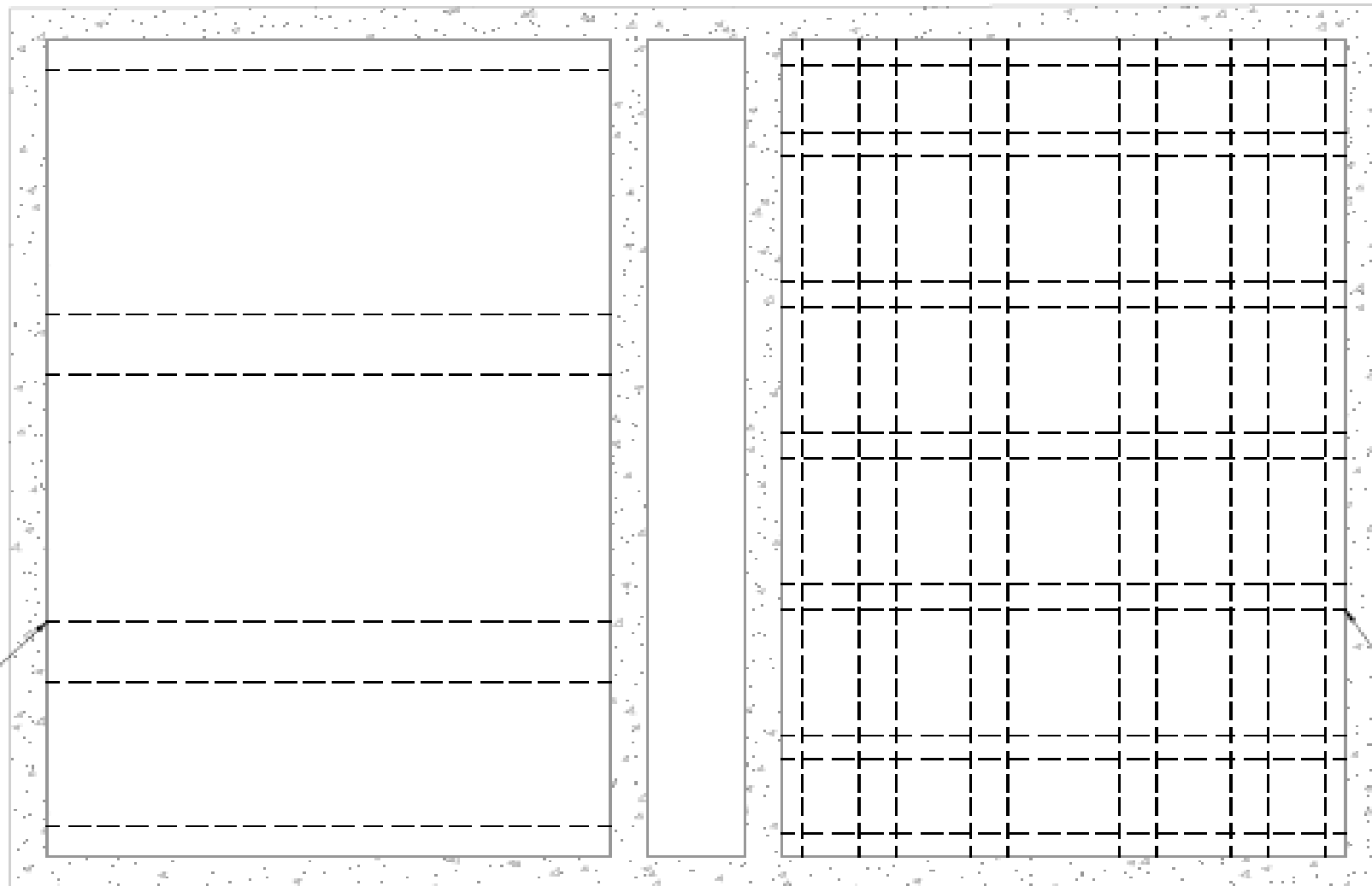
PLAN VIEW: COMPETITOR DESIGN

NTS

3. Extruded profile designed in rectangular clarifiers



SUPPORT SYSTEM
(BRENTWOOD DESIGN)



SUPPORT SYSTEM
(CURRENT DESIGN)

€ 120,000.00

€ 100,000.00

€ 80,000.00

€ 60,000.00

€ 40,000.00

€ 20,000.00

€ -

Thermoforming

Extrusion

B) Extrusion

cost supports, fixing & fittings Tube Settlers cost Total

Achieving 30% savings

NSF Certification

All components for potable Brentwood Tube Settler Systems are available as NSF certified

Tested and Certified by NSF to ANSI/NSF Standard 61 “Drinking Water System Components”

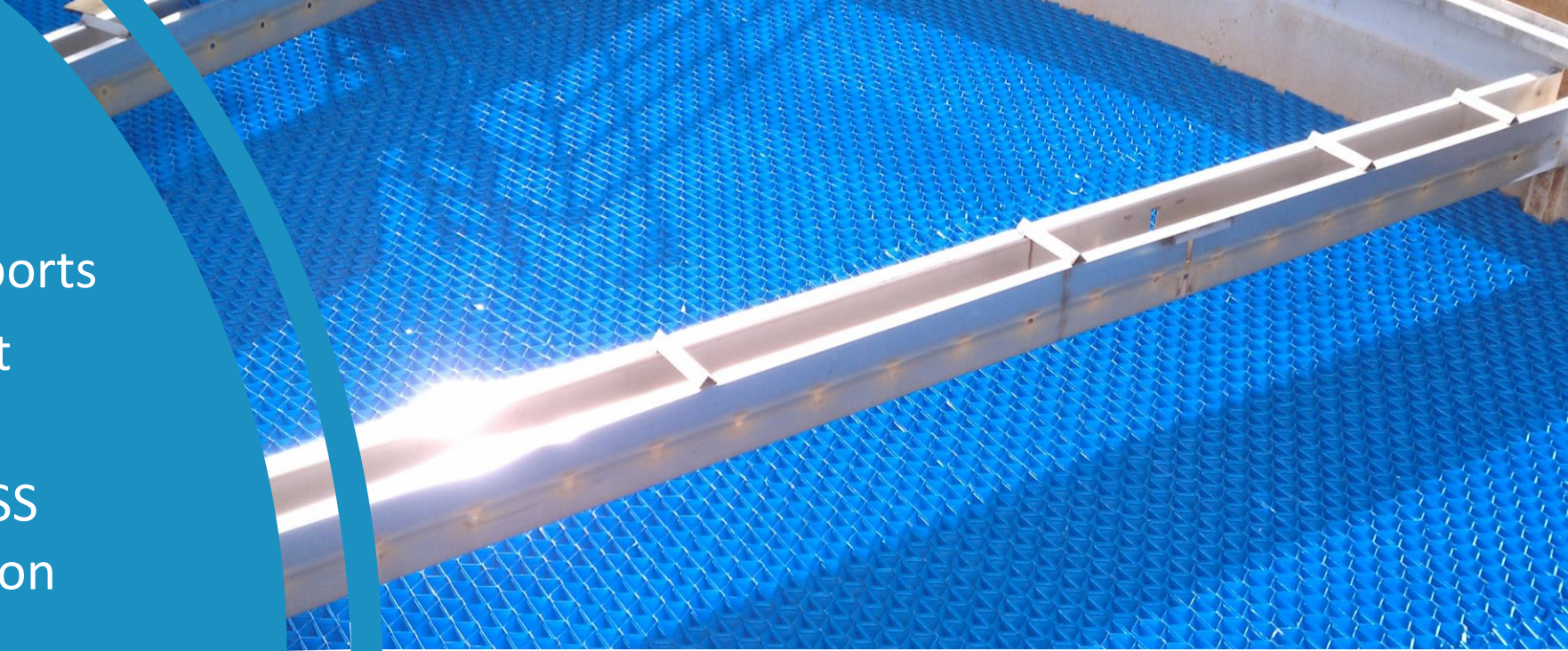


**Certified to
ANSI/NSF 61**



Key Take-aways

- No need for primary supports
- Engineering time and cost reduction
- 75% GRP, Super Duplex, SS supports material reduction
- 30% TCO savings,
- One of the strongest on the market designed around 275 kg/0.1m²



**Thank you for your
time!**

Any questions?

