

GRIPSAFE[®] ST FAMILY OF ISOLATION & TEST PLUGS

KEY FEATURES BENEFITS



ST SUPERIOR TECHNOLOGY

1 WORLDS MOST ADVANCED ENGINEERED PIPE PLUG

■ Patented Technology Supercedes Old Fashioned Design Used For The Past 65+ Years*

- US & International Patents - 14
- US & International Trademarks - 7
- Other US and Foreign Patents Pending

■ 7 Years of Research & Development With In-House Engineering

- Over 4000 Load & Pressure Tests
- 67 Years of Professional Industrial Design Team Engineering Experience

■ Proven Field Success Since 2017

■ Confident GripSafe ST Will Be the New Industry Standard

*Patent No. 2,855,003 - October 7, 1958; Ellis B. Thaxton

■ Design Validation Testing

- 2017 - present
- 80 unique test plans conducted on various stocked sizes and schedules, equating to 1000's of repeatable tests



2 INDEPENDENTLY ACTUATING WEDGE SYSTEM

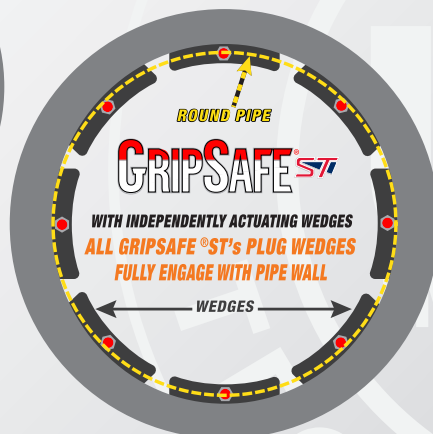
Competitive Products



■ Equal Loading Across All Wedges Ensures Optimal Surface Contact & Holding Capabilities

■ Overcomes Ovality (out-of-round pipe)

- Wedges self adjust to find pipe wall



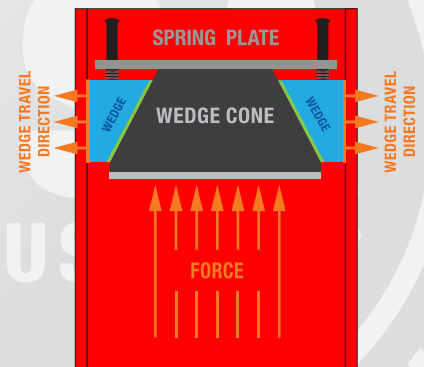
■ Superior Self Gripping

- As force increases, the wedge's hold becomes stronger against the pipe wall

■ No Damaging Pressure Points

- Force is distributed across entire wedge surface

■ Automatic Gripping Upon Insertion On 2-Out-Of-3 Plug Models



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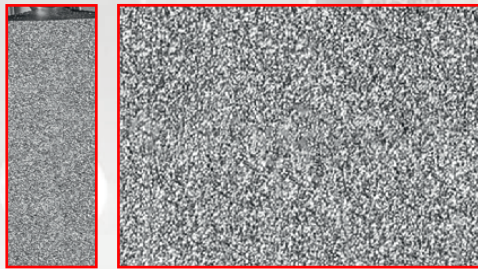


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3 GRIPPING WEDGES

GripSafe ST uses a specially designed wedge system that grips the pipe, and virtually leaves no scarring on the surface.

Competitive products that use serrated jaw-like grippers must bite into the pipe wall in order to hold the load. Feasibly, this degrades the pipe's integrity. Additional costs and time to rework, or to add temporary piping to compensate for damages during testing results.



Secure Gripping With Proprietary Gritlock[®] Technology

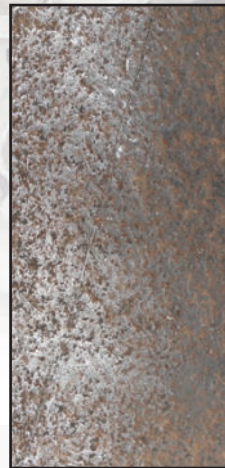
- Thousands of microscopic points of surface contact
- Highly dense and durable material
- At most, micro indentations are left behind
- Perform thousands of full hydro test cycles without diminished performance

Leaves Pipe With Virtually No Surface Damage

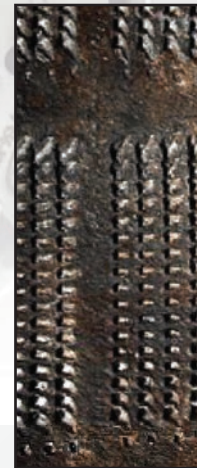
Non-Contaminating Coating

- Wedges are compatible with any alloy piping*

**After use in carbon steel pipe, eliminate the chance for carbon remnants being passed on in passivated/clean stainless steel pipe by simply changing wedges or by using another GSST plug not previously introduced to carbon steel pipe.



GripSafe ST



Competitor A



Competitor B

COMPETITIVE WEDGE TESTING

TEST SPECS: SCH 80 PLUGS, ASTM A106 GRADE B STEEL PIPE, PRESSURIZED TO 3,246PSI (FULL HYDROTEST PRESSURE)

4 TRI-PLY[®] SEALS

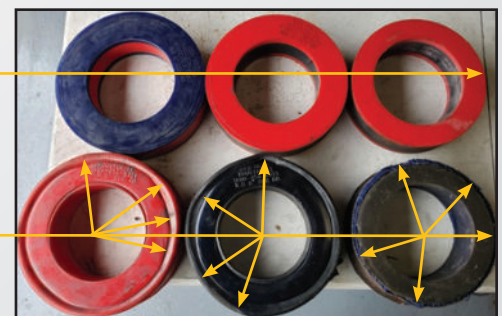
TRI-PLY VS. TRADITIONAL URETHANE SEAL TESTS



Patented Proprietary Seal Technology

- Reduces seal creep
- Less torque required to seal
- Proprietary urethane blend maximizes sealing ability
- Wider seal area over competitive designs
- Expansion range up to 3/8" for greater sealing capacity
- Longer seal life

Tri-Ply seals maintain their shape when pushed beyond testing limits



Traditional urethane seals deform and flatten out when pushed beyond testing limits. The flattening point is when seal expansion seizes, leaving the plug at higher risk for ejection at high pressures

5 ALUMINUM & STAINLESS STEEL BODY MATERIALS

Less Weight (10" and larger plugs)

- On average GripSafe ST plugs weigh less than competitive products. Significant weight differences exist as plug sizes increase, reaching upwards of **50% weight reductions**.



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