

InnerShield™ Sand Screens

Extreme Erosion Resistance



INNERSHIELD™ SCREENS - LONG LIFE IN SEVERE SERVICE

InnerShield™ sand-control screens provide long life and optimized production in wells with harsh downhole conditions. They resist erosion and abrasion with a patent-pending design that directs and disperses fluid flow to avoid localized hot spots and maintain the integrity of the filter media.

Designed for Durability

In sand screens, erosion occurs from the inside out and initiates at perforations. InnerShield™ screens are designed to neutralize these factors.

InnerShield™ screens are built using a patented process that combines base pipe, support core, filter media, and protective shrouds into a single, unitized joint with layers locked tightly in place.

The inner shroud is manufactured so its hole pattern is offset from the base pipe perforations, effectively diffusing the incoming fluid over the entire screen surface and preventing damaging localized erosive conditions. Standoff is optimized to minimize pressure drop and maximize the effective filter area. The result is a sand screen that lasts longer in the toughest downhole conditions.

Advantages

- Erosion and abrasion resistance
- Mechanical strength
- Reliable filtration
- Unitized cartridge design
- Simple, fast installation
- Compatible with sintered mesh construction
- Design and production flexibility
- Meets the toughest producer and service company testing requirements

Applications

- Wells with severe downhole conditions
- Open-hole and cased-hole completions
- Stand-alone completions
- Gravel-pack and frac-pack completions
- Vertical, deviated and horizontal completions
- High flow-rate producers
- Long and extreme-reservoir-contact wells
- High GOR wells



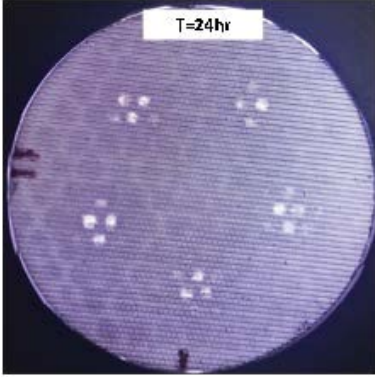
InnerShield™ Dimensional Data							
Base Pipe OD		Base Pipe ID		Base Pipe Weight		Screen OD*	
in	mm	in	mm	lbm/ft	kg/m	in	mm
2.375	60.3	1.995	50.7	4.6	6.8	3.285	83.439
2.875	73	2.441	62	6.4	9.5	3.785	96.139
3.5	88.9	2.995	76.1	9.2	13.7	4.410	112.014
4	101.6	3.476	88.3	11	16.4	4.910	124.714
4.5	114.3	4	101.6	11.6	18.7	5.310	134.874
5	127	4.408	112	15	22	5.910	150.114
5.5	139.7	4.892	124.3	17	25.3	6.410	162.814
6.625	168.3	5.920	150.4	24	35.6	7.535	191.389
7	177.8	6.276	159.4	26	34.2	7.940	201.676

*OD subject to changes based on mesh selection

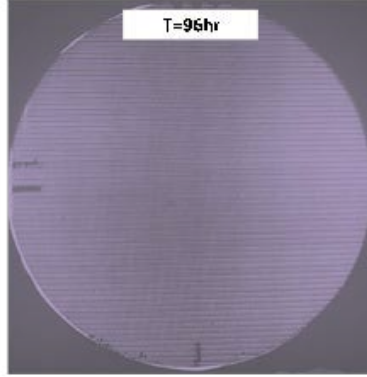
Mesh Data				
Mesh	Nominal Rating	Weave Type	Filter Cut Point	Max Pore Size
	µm		µm	µm
Super Fine	110	Plain Dutch	110	120
Very Fine	150	Plain Dutch	150	160
Fine	175	Plain Dutch	180	200
Medium	200	Twilled Dutch	190	210
Coarse	250	Plain Dutch	250	275
Very Coarse	300	Plain Dutch	300	325
Super Coarse	325	Square	325	350

Flow Distribution

Testing confirms improved flow distribution through the screen by the addition of the inner shroud. The InnerShield® screen exhibits significantly reduced exit velocity of fluids underneath the screen compared to a conventional screen design, thereby protecting the screen against erosion (after SPE 208817).



Inner Mesh – 5 hole baseplate



Inner Mesh – 1 hole plate with diffusion disk

Erosion damage on a conventional screen vs the InnerShield Screen (test performed at 72 gpm through a 4in screen disk with 4g/L 360mesh SiC Grit – after SPE 208817)

Documented Quality

TPM is ISO 9000 certified for quality assurance and management. We adhere to stringent quality assurance procedures, including 100% inspection of finished pieces. Every screen joint receives a thorough examination of ID/OD, weld integrity, straightness, and length. TPM is able to validate the micron rating in our finished products.

We will also incorporate any additional quality requirements you may have. The TPM quality assurance program is fully documented and available for your review.

Material certifications are provided for every order, with complete listings of relevant chemical and physical properties. Every order is fully traceable back to the heat number of the raw material.

Just-In-Time Supply

TPM will work with you to achieve just-in-time delivery. We often proceed based on blanket purchase orders, shipping quantities only as you need them and maintaining a sufficient inventory of your screens at our facility. We track your usage rates, communicate with you to adjust for any special needs, and replenish stock as necessary.



InnerShield™ Screen

Base Pipe

Inner Shroud

Support Core

Filter Media

Protective Shroud



UNISCREEN™ SAND SCREENS

Patented Unitized Technology

INNERSHIELD™ SAND SCREENS

Extreme Erosion Resistance

ONSCREEN™ SAND SCREENS

Premium Direct-Wrap

ACCUSHROUD™ SAND SCREENS

Controlled Micron Ratings

CUSTOM SPIRAL-WELDED SHROUDS & CORES

Versatile, High-Quality Manufacturing

CUSTOM DESIGN ASSISTANCE

TPM works with you to provide the optimum sand control solution. If your application requires unique product features, we can produce screen joints based on your specifications or consult with you to develop the best product for your needs. Our versatile production process can cost-effectively make prototypes for testing prior to full-scale production.

Dependable Quality • Responsive Service • Fast Turnaround • Superior Value

Contact us for price quotes, design support, and assistance with your unique requirements.

U.S. Issued Patent No. 10,981,090 and 10,895,134
U.S. Patent Pending No. 17/472,306, 18/101,508 and 63/438,746
EU Patent Pending No. EP222161156
Saudi Arabia Patent Pending No. 122431294
UAE Patent Pending No. P6001431/2022
Kuwait Patent No. 931367
Brazil Patent Pending No. BR1020210223987

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