Science.
Applied to Life.™

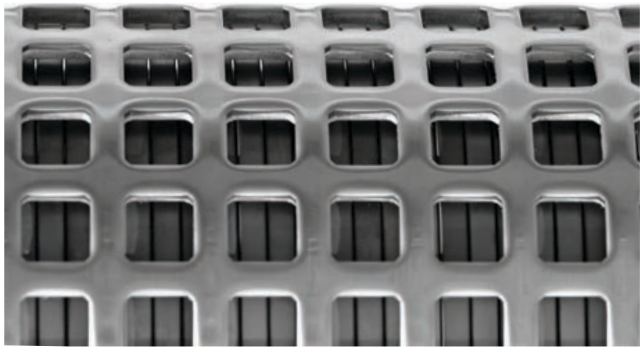
Product Information

3M™ Ceramic Sand Screens

Introduction

3M™ Ceramic Sand Screens offer efficient sand and proppant flowback control for demanding conditions where erosion and corrosion are major challenges. The ceramic materials used in 3M ceramic sand screens offer exceptional resistance to abrasion and chemical corrosion, and are approximately 10 times harder than the metallic materials used in conventional metallic screens. As a result, 3M ceramic sand screens offer superior service life and show minimal wear under reservoir conditions.

3M ceramic sand screens are comprised of a flexible stack of ceramic rings with v-shaped or keystone gaps. Slot opening, screen length and screen diameter are chosen for the specific application. 3M ceramic sand screens can be deployed in most standard well completions, including both new and existing wells.



Close up of stand-alone 3M™ Ceramic Sand Screen

3M™ Ceramic Sand Screen

Features and Benefits

- Increased well life-cycle longevity helps lower capital expenditures
- Increased production envelope enables higher production rates, especially in fraced wells
- Unlocking wells where sand failure has occurred
- Alternative to gravel packing, with simplified logistic and completion design
- For horizontal, deviated and vertical wells
- Simple deployment via wireline/slickline, coiled tubing or conventional rig system
- The 3M ceramic sand screen design can be conveyed through existing production tubing or optimized for well work over or new well applications
- 3M ceramic sand screens can be suspended from an existing nipple profile, or be deployed with an E-packer, mechanical or swell packer
- Suitable for both cased-hole and open-hole applications

Applications

- Wells with corrosion and erosion issues
- Stand-alone screens as an alternative to gravel packing
- Intervention in failed sand control
- Proppant flow-back control
- High temperature/pressure sand screens
- Protection for valves, SSDs (sliding sleeve doors) and ICDs (inflow control devices)

Material Description (Not for specification purposes.)

Maximum Screen OD	(inch)	1.709	2.413	2.913	3.287	3.539	4.287	4.917	5.496	5.811	6.750	7.193
Base pipe OD [a]	(inch)	0.591	1.181	1.669	1.900	2 3/8	2 7/8	3 1/2	4	4 1/2	5	5 1/2
Base pipe weight	(lbs/ft)	0.43	0.94	1.73	2.75	4.60	6.40	9.20	9.50	12.60	15.00	17.00
Screen ID	(inch)	0.433	1.024	1.465	1.610	1.995	2.441	2.992	3.548	3.958	4.408	4.892
Connections	API NUE PIN/BOX	1.315	1.9	2 3/8	1.9	2 3/8	2 7/8	3 1/2	4	4 1/2	5	5 1/2
Metallurgy	Base Pipe/Metal Parts	316/316L			L80Cr-13/L80 316/316L/S355J2							
Maximum joint length		7 ft (Modular)			R2	R2	R2	R2	R2	R3	R3	R3
Slot opening	(Micron)	150, 200, 250 and 300 µm										
Average weight of screen	(lbs/ft)	3.3	5.9	8.1	8.23	10.3	14.2	17.6	20.7	23.5	33.2	35.9
Diameter perforation	(inch)	0.236	0.236	0.236	0.374	0.374	0.433	0.433	0.492	0.492	0.492	0.492
Perforations base pipe	(avg perfs/ft)	33	52	66	88	88	76	76	69	69	69	69
Documentation		According to 3M standard STA7_SC-A-600-00 (Based on ISO 17824 2009 E)										
Minimum collapse pressure †	(psi)	n.a.	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500
Minimum burst pressure †	(psi)	n.a.	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
End ring pushoff	(tons)	n.a.	n.a.	n.a.	17	20	23	26	30	32	35	38
DLS	(°/100 ft)	18	18	18	18	12	12	12	12	12	12	12

[a] Base Pipe Outer Diameter (OD) & Inside Diameter tolerances according to API Spec 5CT
† Collapse and burst values are tested in alignment to ISO17824 and API19SS with no screen failure/no loss of sand control
Standard 3M™ Ceramic Sand Screens rated for temperatures up to 150°C
Special metallurgy can be available based on specific application demand

German (Germany) 3M Technical Ceramics

Zweigniederlassung der 3M Deutschland GmbH
Max-Schaidhauf-Str. 25, 87437 Kempten, Germany

Phone +49 (0)831 5618-0
Web 3M.com/ceramicsandscreens

3M Advanced Materials Division

3M Center
St. Paul, MN 55144 USA

Phone 1-800-367-8905

The management system has been certified according to DIN EN ISO 9001, DIN EN ISO 50001, DIN EN ISO 14001.