

Product Sheet: 3M™ Ceramic Sand Screens

Product Description

The new 3M™ Ceramic Sand Screen offers a breakthrough sand control technology especially under demanding conditions where erosion is a major challenge.

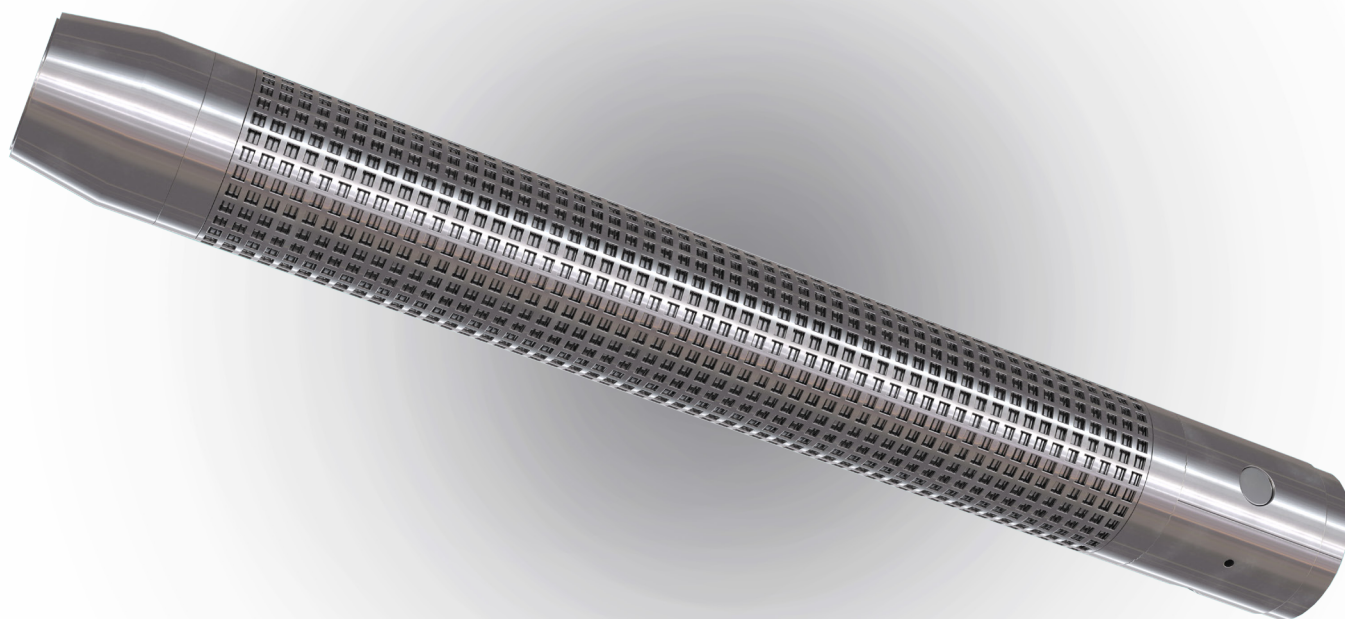
State-of-the-art sand screen systems generally consist of metals that offer limited resistance to erosion. Since the degree of erosion is determined by material properties, 3M™ Ceramic Sand Screens use ceramic materials, which are one order of magnitude harder than metallic materials and show no indications of erosion under reservoir conditions.

The screens can be deployed for regular sand-control in new wells or retrofitted to existing wells that suffer from sand problems as a result of reduced reservoir pressure. They can be set in most standard well completions and offer the opportunity to product reserves that would otherwise have been lost.

Product Benefits:

Working beyond the limits of state-of-the-art metallic sand screens.

Designed for unconsolidated reservoirs with the risk of significant sand production.



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Product Applications

3M™ technology improves the known wire wrap screen principle by taking advantage of the unique properties of technical ceramics.

- Flexible stack of ceramic rings
- Specially designed with v-shape or keystone gaps
- Gap width, length and diameter tailored to the specific application / well bore
- Alternatively as self-supported systems or provided with an internal perforated tube
- Protection of valves and sliding sleeves is also an option

The 3M™ Ceramic Sand Screen design is well suited to ceramics and gives flexibility to the stack of ceramic rings while providing stability against torsion and flexure. As a consequence, the 3M™ Ceramic Sand Screen savely passes dog legs and can even be retrieved without harming the ceramic rings.

Minimizing pressure losses is a major issue during oil and gas production. To meet this important goal, extensive modeling on ring and gap design as well as a set of flow tests have been performed. The comparison of theory and practices is fully congruent: The pressure loss over the 3M™ Ceramic Sand Screen stays very low for a broad range of flow rates.

Product Features

- No erosion (10 times higher hardness than metal)
- Higher collapse resistance (twice the stiffness than metal)
- For horizontal, slanted and vertical wells
- Retrofitting with the system on existing commercial landing nipples

