

The Total Hardfacing Package For Unmatched Durability

Extended life, longer runs, fewer trips

Introducing MaxLife total hardfacing for the industry's newest series of steel tooth bits. This wear-resistant package on our GX and MXL steel tooth bits is setting a new standard for durability in high-wear applications. You'll drill deeper and longer without excessive cutting structure wear.

Our R&D teams, responding to operators who wanted a tougher steel tooth bit, developed MaxLife for high-wear applications. By strategically applying 100% more hardfacing compared with our standard steel tooth product line, we dramatically reduced the amount of exposed steel around the gauge and teeth. This industry-leading design delivers a more robust cutting structure, greater shirrtail protection and increased seal life.

Increased tooth strength

An additional 33% more hardfacing on the tooth crest compared with our XLX technology increases tooth strength and resists wear. The remaining tooth geometry has 25% more hardfacing. With this added hardfacing and the modified tooth pattern, operators are running our steel tooth bits multiple times. In at least one case, an operator is using 50% fewer bits with this application-specific hardfacing technology.



MaxLife increases

- durability
- abrasion resistance
- cutting structure protection
- seal protection
- erosion resistance for higher ROP, more footage and fewer trips.

Improved bit life with more hardfacing



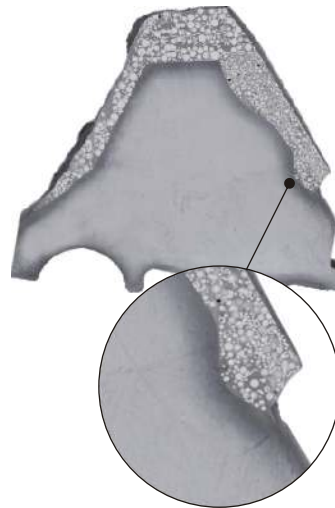
Our patented XLX technology also has been enhanced with additional hardfacing to improve tooth durability and resist wear.



Our patented spearpoint protection has been enhanced with additional hardfacing to resist fluid erosion and wear.



A new bar trimmer design maximizes gauge-holding. This patent-pending technology—with weld pads in between the heel teeth instead of tungsten carbide inserts—prevents the cuttings from wearing into the cone steel.



33% more tooth crest protection compared with our XLX technology for added strength, reduced wear and enhanced gauge-holding.

Cutaway of the recessed groove filled with hardfacing on the cone backface. This patent-pending technology reduces erosion, resulting in improved seal protection.



Our patent-pending STL shirttail and leg hardfacing reduces the damaging effects of hole-wall contact by adding a significant amount of extra hardfacing in these critical areas.

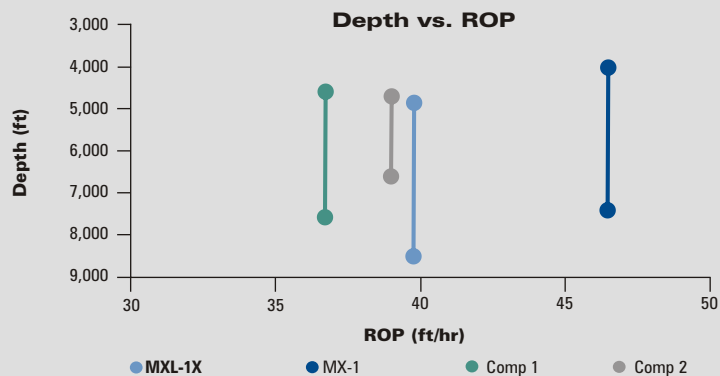
Longest and Deepest Section

Bit: 14 3/4" MXL-1X

Location: Louisiana

Formation: Limestone, shale, sands

Results: In this directional hole with a motor, the MXL-1X with MaxLife built from vertical to 12° and dropped back to vertical again. The bit, which was pulled seal-effective, drilled the longest and deepest section compared with the three vertical offset sections. The MXL-1X drilled 300 more feet and was pulled 2-3-WT-A-E-I-CT-BHA.



Field Record and Fewer Bits

Bit: 17 1/2" MXL-1X

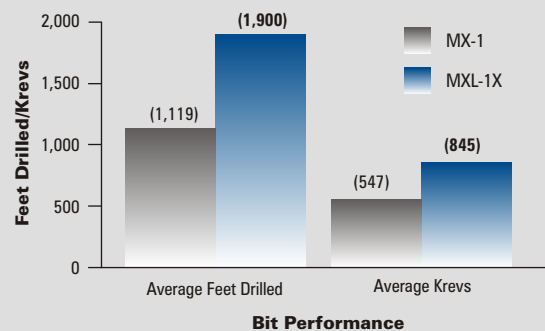
Location: Southeast Mexico

Formation: Interbedded sands and sandstone

Results: A customer experiencing excessive cutting structure wear gave us the opportunity to test the performance of our MXL-1X with MaxLife and our standard MX-1 in two offset wells. A total of three MXL-1X bits were used in the test. One of the three bits set a field record for the longest run with 1.01 million total bit revolutions and 3,356 ft [1,023 m] drilled. The bit was pulled seal-effective. Compared with the six MX-1 bits used in the field's first well, the MXL-1X with MaxLife total hardfacing in the second well enabled the operator to:

- use 50% fewer steel tooth bits
- drill an average 70% more footage
- achieve, on average, 49% greater ROP
- complete, on average, 54% more total bit revolutions.

MX-1 vs. MXL-1X Performance



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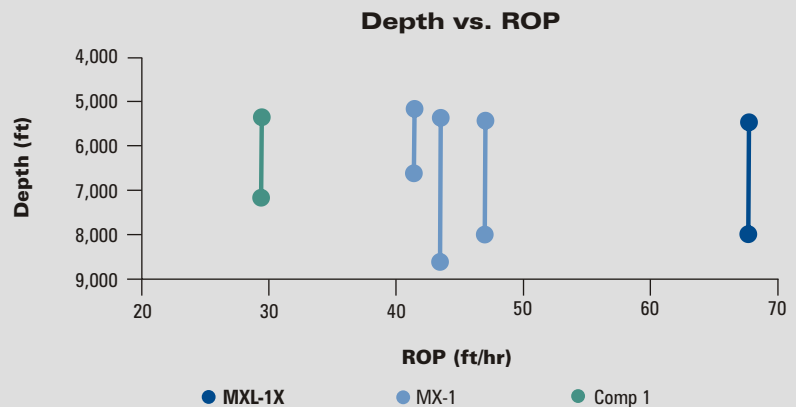
Impressive ROP Increase

Bit: 14 3/4" MXL-1X

Location: Louisiana

Formation: Limestone, shale, sands

Results: The MXL-1X with MaxLife proved you don't have to sacrifice ROP when running a more durable bit. Throughout the run on a rotary assembly, the operator maximized WOB and RPM without worrying about preserving the cutting structure. ROP was more than double the nearest competitor.



More Footage and Faster ROP

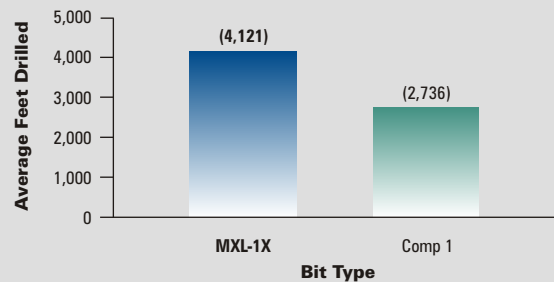
Bit: 17 1/2" MXL-1X

Location: Southeast Mexico

Formation: Soft, abrasive sands with interbedded shale

Results: In this high-wear land drilling application, we compared our MaxLife hardfacing package against our nearest competitor in similar wells. In this application, the MXL-1X with MaxLife achieved, on average, 50.5% more footage and 8.3% faster ROP than the competitors' bits used in the offset wells.

Average Distance Drilled Comparison



To learn how MaxLife enables you to drill farther, faster, and longer with fewer trips, please contact your local Hughes Christensen sales representative.

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Europe / Africa 44-1-224-720-000
Middle East / Asia 971-4-8082200
Canada 403-537-3400
Latin America 54-9-11-4378-6400

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