





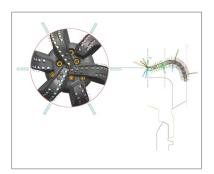


GEOTECH™ EARTH BORING EQUIPMENT AND IBITS™ DRILLING OPTIMIZATION SOFTWARE

IBitS™ 8.5 DRILLING OPTIMIZATION SOFTWARE

The new IBitS[™] 8.5 drilling optimization software, for the first time, standardizes the design process for both steel and matrix body bits, enabling the ADE[™] designers to take the DatCI[™] optimization process to a whole new level. The natively developed 3D CAD/CAM software packages enable the user to directly design application specific solutions faster than ever before.

The embedded analytical tools enable users to simulate drilling conditions before actually building the bit. Using these powerful prediction and simulation tools has never been more important to help ensure that each design is optimized for the application. The software now incorporates improved Depth of Cut Control, hardfacing pockets, and the advanced rock interaction model. The new IBitS™ 8.5 drilling optimization software is also tied directly to the manufacturing process, enabling faster custom builds and delivery to the field regardless of material platform.

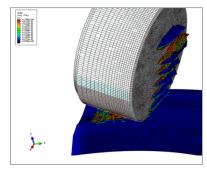


IBitS™ 8.5 drilling optimization software

ROCK INTERACTION MODEL

The industry-leading Rock Interaction Model is an analysis tool that can predict bit performance through more accurate predictions of rock failure modes. This patent-pending platform uniquely predicts loads and motion of a drill bit, incorporating multiple scenarios including: rock chipping, bent motor, whirl, and more. Changes in cutter layout, spacing, and profile shape can all be analyzed and accounted for to maximize the bit performance as it interacts with the formation. This unique scientifically based approach enables direct comparisons in bit design performance to be performed rapidly.

Crushing and chipping rock failure modes are taken into account along with additional parameter such as arc length of engagement, equivalent depth of cut, and shape of the engagement to predict cutter loading. This combination provides a proven enhancement in the ability to accurately predict downhole performance.



Rock Interaction Model

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