

Performance of Special Sucker Rod (AlphaRod® CS) After 5 Years of Field Experiences
Worldwide

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After many years of satisfactory results gotten with conventional steels sucker rods, application has been restricted to neutral or benign environments. As this environment gets more aggressive, standard materials reach their limits. In this scenario, this new special sucker rod (AlphaRod® CS) was created to deliver superior performance on benign environments and at the same time overcome more demanding requirements offering a solution to fatigue and corrosion-fatigue problems, one of the major and unpredictable causes of premature failures in O&G industry. Since its development, more than five years of field trials and in excess of 200 installations worldwide are summarized in this paper in order to validate its performance at field conditions vs the improvement found on laboratory tests. With proven field performance evidence, deep failure analysis and worldwide data comparison allowed us to understand and detect patterns that defines with more precision the product application range in terms of corrosion content and/or stress levels. According to laboratory test results, the product has shown an outstanding performance giving 2 to 3 times more resistance than conventional sucker rod steels. In the same vein, field experiences showed an important improvement in terms of run time. In particular, unconventional reservoirs producer wells push the limits from a loading and harshness point of view on existing ALS in a fashion that creates problems with reliability. This new special sucker rod (AlphaRod® CS) improves sucker rod string reliability in those conditions and helps reduce downtime and OPEX to operators.