DynaSlot™ System
360° Certainty Well Abandonment
The DynaSlot gun system presents a highly compelling alternative to traditional plug and abandonment and conventional cement squeeze operations, as well as costly section milling procedures. By perforating a helical pattern of horizontal rectangular slots in the casing, 360° access to the area behind the tubing or casing is guaranteed.

The slots penetrate into the formation, covering voids between casing and cement, and between cement and formation. The DynaSlot gun charge provides a far superior starting point to a cement squeeze as compared to conventional big-hole squeeze guns. Oil and gas companies adopting the DynaSlot system will reduce workover costs, as they will avoid having to reperforate a second or third time because the first attempt was not successful. As a single-gun system, DynaSlot is also substantially less time consuming compared to other 360° access methods such as section milling and slot cutting with abrasives.

Oil and gas companies using the DynaSlot system will reduce the overall cost of their plug and abandonment and remedial cementing operations. The system provides the certainty of 360° cement coverage in the time required to shoot a single gun.

–Thilo Scharf, Product Line Manager, DynaEnergetics
DESIGNED TO ELIMINATE EXPENSIVE “DO-OVERS”

The DynaSlot gun system is a single-trip solution that is designed to intersect more channels than any conventional gun because of its rectangular slots and overlap between the charges.

Where conventional perforating guns with standard big-hole charges may not intersect microannuli and channels behind pipe (see figure, below left), the DynaSlot gun system ensures complete coverage. DynaSlot employs a unique scallop design, which provides sufficient surface area for the perforation slot without sacrificing burr height protrusion, system performance or mechanical integrity. Rectangular slots can be produced in a way to optimize overlap and can be created in the liner or inner casing without damaging the outer casing. DynaSlot guns can be run on wireline or TCP. Perforate once with a DynaSlot gun to achieve more reliable results and significantly reduce workover costs — be it for section milling, abrasive jetting or big-hole perforating.

**CONVENTIONAL CEMENT SQUEEZE GUN**

With a conventional cement squeeze gun, not all channels and microannuli may be intersected.

**DYNASLOT SHOT**

The DynaSlot shot pattern provides 360° coverage with overlapping rectangular slots that enhance P&A perforating and squeeze jobs.

DynaSlot eliminates gaps with 360° coverage achieved with 18 shots and 50% overlap.
DYNASLOT GUN SYSTEM PERFORMANCE

Compared to conventional round-shaped charges, the DynaSlot system uses charges that are rectangular. The significance of a slotted shaped charge is that greater horizontal coverage in the casing is possible. By overlapping these charges by 50% in a complete circumferential-vertical cross section, you can be certain that 360° coverage is achieved. The DynaSlot system integrates with standard perforating hardware for a convenient and easy solution.

A 3.375-IN. [86-MM] DYNASTAGE GUN WITH 18 SPF ACHIEVES 360° COVERAGE WITH 50% OVERLAP TO INTERSECT MORE MICROANNULI AND CHANNELS THAN CONVENTIONAL PERFORATING EQUIPMENT.
**THE CHALLENGE OF ACHIEVING PERMANENT ISOLATION**

Well plug and abandonment (P&A) involves advanced technical procedures that are performed to shut and permanently seal the wellbore. P&A processes can present difficult challenges to oil and gas companies in terms of costs and also with regard to achieving a seal that is permanent.

When completing P&A cement squeeze operations, it is essential that the layers of sedimentary rock are pressure isolated. This is especially important for wellbores that pass through freshwater aquifers. Unwanted vertical channels or voids in a previously cemented wellbore annulus can produce migration pathways for fluids or gas, presenting risks associated with leakage, cross-flow and cross-contamination, and environmental impacts.

Achieving a permanent seal is especially significant, given the fact that operators are responsible for an abandoned well in perpetuity. In the event of a seal failure and leakage, the operator remains liable for the problem.

While conventional perf and seal with standard big-hole charges can be affordable, these processes also come with lower rates of success and great uncertainty due to the fact that all microannuli and behind-pipe channels are not always intersected. Section milling guarantees perfect access to the area behind the casing, but this method is also extremely expensive and time consuming.

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**Certainty and Peace of Mind**

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Oil and gas companies using the DynaSlot gun system for remedial cement squeeze and P&A operations will have complete peace of mind and will save millions. Compare the difference to traditional methods, and see the impact on your budget — whether it’s section milling or the uncertainty of conventional squeeze guns. The DynaSlot system achieves total access to the casing annulus in one standard wireline or TCP perforating run.

—Thilo Scharf, Product Line Manager, DynaEnergetics

Compare the Impact of DynaEnergetics perforating systems against conventional options, and we guarantee that you’ll see a measurable difference in performance, reliability and well productivity.

Contact us from anywhere on the globe at performance@dynaenergetics.com or visit us online at dynaenergetics.com, and we’ll show you how.