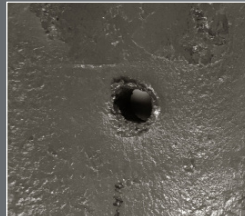
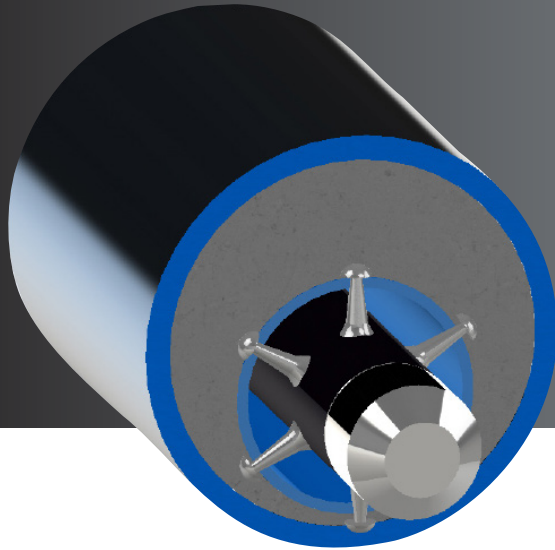




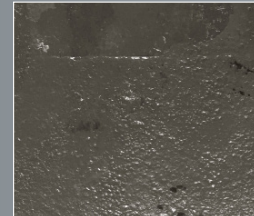
Custom Design Perforation Solution



INNER STRING



MIDDLE STRING



OUTER STRING

Advantages

- Capable of providing 360° perforation coverage of primary casing string to establish communication with annulus
- Produces consistent entry hole to assist in cement squeeze and circulation operations
- Large area open to flow for less impeded cement flow and more homogenous cement plug
- Limited damage to secondary string regardless of primary to secondary string orientation
- Product offerings for gun sizes ranging from 1-9/16 to 7in.
- PAC product offerings for C & D Annulus limited penetration scenarios

Owen's PAC line provides a superior option to standard tubing/casing punch charges when limited penetration is required. These charges are capable of producing 0° - 360° coverage of the primary casing string with consistent exit hole diameters for less impeded cement flow. These charges utilize manufacturing and packaging processes that allow for easy shipment and fast delivery to the customer.

This technology should be used to establish communication between two or more strings of tubing or casing. The system with the largest possible running diameter should be chosen to achieve maximum hole size in the primary string. For well abandonment or zonal isolation, a PAC system with 360° coverage is recommended. This will improve the quality of the cement plug and drastically reduce the time for completion. For establishment of circulation or applications where reduced area open to flow in required, 0° phased systems are recommended. These systems provide consistent hole sizes and minimal controlled damage to the outer string.

Owen Oil Tools

P.O. Box 568, 12001 County Road 1000, Godley, Texas 76044
P. 800.333.6936 - www.corelab.com/owen