



# IntegraBond™ Family of Cements

PROVIDING LONG-TERM WELL INTEGRITY

## OVERVIEW

During cementing, the slurry must withstand the stresses induced by pressure and temperature changes in the well during completion and production, and maintain its integrity if subjected to chemical attack.

IntegraBond cementing systems create an effective cement sheath that bonds to the formation and the casing, effectively sealing oil, gas or water from the wellbore, whatever the downhole environment. These sophisticated solutions enable operators to produce in more challenging environments across North America.

## PRODUCT FAMILY

<p><b>INTEGRABOND FLEX</b></p> <p>Gas migration, water influx and other damaging effects can occur when a cement bond breaks down due to downhole stress. These flexible cements maintain hydraulic integrity and conform to changes in downhole pressures and temperatures from hydraulic fracturing, well production, reservoir depletion and remedial operations.</p>	<p><b>INTEGRABOND SH</b></p> <p>When the stress limits for the cement are exceeded, cracking and debonding can occur, resulting in hydrocarbon or water influx into the wellbore. Ideal for high-risk operations or to minimize remediation costs, these resilient cements will chemically react if exposed to hydrocarbons and effectively reseal minor cement defects.</p>	<p><b>INTEGRABOND PERM</b></p> <p>In areas where CO<sub>2</sub> and H<sub>2</sub>S are present (South Texas), these chemicals can permeate and breakdown the cement bond, potentially causing casing corrosion. These highly-effective, low-permeability, corrosion-resistant cement systems withstand the chemical attack, maintaining the cement bond and protecting the casing.</p>
<p><b>INTEGRABOND SALT</b></p> <p>There are two types of subsurface salt deposits in the U.S. – salt domes and bedded salt. Salt is an impermeable substance, leading to poor cement bond logs, compound washouts and loss of slurry thickening control. These cement slurry systems are specially designed to be placed across and effectively isolate salt zones.</p>	<p><b>INTEGRABOND ICE</b></p> <p>Zero and subzero temperatures and permafrost can cause extremely low bottomhole circulating temperatures, effecting cement slurry set times. This unique cement slurry is specifically designed for extremely low-temperature applications such as those experienced while drilling through permafrost. This solution allows for control of slurry set time and enhances rapid compressive strength development.</p>	<p><b>INTEGRABOND XTREME</b></p> <p>Typically occurring in deep wells, high pressure and high temperature (HPHT) can cause cement slurry properties to change, losing control of cement set times and fluid loss. These cementing systems are specifically engineered to provide zonal isolation in environments up to 600°F (330°C) with slurry densities up to 22 ppg. It resists degradation and does not lose its compressive strength.</p>