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Offshore & Subsea Grouting Services
Core Grouting Services is focused on providing clients with expert services in offshore and subsea grouting.

**AN ACTEON COMPANY**

Core is part of the Acteon Group of subsea and offshore service companies. Based in Norwich in the UK, Acteon has an outstanding portfolio of complementary products and services for the subsea marketplace. The experience shared by Acteon companies opens the opportunity for a fresh approach to subsea operations and services.

Core is building on the offshore foundation experience of sister companies Menck and LDD. Core also benefits from the well and structural engineering experience of Claxton Engineering and 2H Offshore.

**Grout specification**

<table>
<thead>
<tr>
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<th>Standard Strength Grout</th>
<th>High Strength Grout</th>
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<tbody>
<tr>
<td><strong>Description</strong></td>
<td>Most commonly used offshore grout. Based on standard grade cement</td>
<td>Used where the grout is required to provide additional strength to structure. It is a proprietary mix of cement and specialist additives.</td>
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</table>
| **Applications**                          | • Structural pile grouting  
• Structural repair clamps  
• Fabric formworks          | • Structural pile grouting  
• Platform strengthening  
• Conductor strengthening  
• Wind farm monopile transition piece installation |
| **Mean compressive strength (MPa)**       | 55 to 80                | 95 to 190            |
| **Density when mixed (Specific Gravity)** | 1.92 to 2.05            | 2.35 to 2.45         |
| **Cement type**                           | Ordinary Portland Cement / CEM I / ASTM Class 1 or 2 / Oilwell GC | Proprietary cementitious material e.g. Ducorit, Masterflow |
| **Mixing method**                         | Colloidal mixer or recirculating mixer | Pan mixer |
| **Water used**                            | Seawater                | Freshwater           |

**WHAT IS GROUT?**

Grout ( historically a thin mortar poured into cavities to fill them and consolidate the adjoining objects into a solid mass. In the offshore environment grout is mainly used for filling the jacket pile annuli, wind farm transition piece installation or repair and strengthening of structures. The grout used is classified based on its mean compressive strength. At Core Grouting Services we specialise in the application of standard and high strength grout.
Structural pile grouting

Offshore structures experience the full extent of the ocean's power. Therefore these structures need a strong foundation. The majority of offshore structures have piled and grouted foundations. This means that piles are driven into the seabed through the jacket of the structure. The gap or annulus between the piles and the jacket is filled with grout. This grout is not just used to fill the gap but also to provide a bond between the piles and the structure and enable forces to be transferred.

Core grouting has the experience not only to provide clients with a high quality grouting service but also the capability to advise on the engineering and operational nuances of the design of offshore grouted pile connections.

Structural repair and strengthening

Over time offshore structures may become damaged or need repair due to corrosion, collisions or fatigue. High strength grout can be used to address this degradation in the load bearing capacity of the structure. For example grouted clamps can be used to reinforce the damaged part of the platform enabling the structural strength to be brought back to design conditions.

Grouting can also be used to increase the load bearing capacity of a structure in advance of new topsides being installed. The grout is used to stiffen the structure or add further bracing to it.

Conductor strengthening and well integrity

Core is working with sister Acteon companies to deploy high strength grout to strengthen corroded and failing conductors.

The high strength grout can be placed in the annulus between the corroded conductor and the surface casing enabling a high strength bond between the two and transferring significant forces across from the casing to the conductor.

The high strength grout is also of such a high density that it is impermeable to corrosive fluid thereby acting as a barrier to prevent further corrosion of the conductor.

Our services:

- Monopile TP grouting
- Structural pile grouting
- Structural repair and strengthening
- Conductor strengthening and well integrity

As a company we are focused on providing the highest quality grouting services to our clients. The main offshore grouting services that we provide are:

1. Monopile TP grouting
2. Structural pile grouting
3. Structural repair and strengthening
4. Conductor strengthening and well integrity

Monopile TP grouting

Monopiles are one of the most cost effective foundation types for offshore wind farm construction. The monopile is a single large pile which is driven or drilled into the seabed. Grouting is used to connect the transition piece to the monopile. A transition piece is used as a levelling mechanism in order to ensure the required verticality of the foundation for the wind turbine tower.

Core has specially designed grouting equipment to ensure fast, efficient grouting of monopile transition pieces offshore. Our highly experienced team has significant expertise within this field and can be trusted by project teams to help ensure efficient and effective offshore grouting operations.

Structural pile grouting

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At Core we have a committed and proactive approach to ensuring the highest levels of health and safety across our teams and projects. We employ a safety management system which is in accordance with ISO 18001. Our staff are regularly trained in how to undertake their activities in a safe manner. We also work closely with our suppliers and subcontractors to ensure everyone is aware of their safety responsibilities. Our health and safety policy is regularly reviewed by management and independent third parties to ensure we are achieving the required outcomes.

Environment
We take our environmental obligations very seriously at Core Grouting. We work closely with our clients, supply chain and partners to ensure we minimise our impact on the environment. Core is committed to operating in accordance with ISO 14001.

Quality
At Core Grouting services we strive to maintain high quality standards across all our projects. We operate a management system which is in accordance with ISO 9001. We understand the need for demonstrating high quality when working on offshore installations. We ensure that our personnel are trained and qualified to do the tasks entrusted to them and they recognise the need for quality in the work that they do.