

# DynaFORM™ for Cementing

## Overview

The DynaFORM™ packer can either replace cement completely or be used to provide effective annular isolation where the cement operation fails or develops micro annulus, removing the need for remedial work.

- Swellable rubber bonded to the external of the casing
- External rubber swells and seals where cement performance has been poor
- Reacts to fluid ingress sealing off developing micro annuli
- Performs well in out-of-gauge open-hole sections
- Installation could remove the need for cement squeeze

## Features and Benefits:

- Provides significant cost savings
- Strong and durable packer
- Simple - there are no moving parts
- No additional running tools or site crew
- Long life span
- Enables planning of zonal isolation
- Prevents annular flow
- Available for water or oil activation

## Installation Process

The DynaFORM™ swellable elastomer is vulcanized directly onto the casing creating a strong and durable packer. The DynaFORM™ is shipped from our manufacturing plants to the well site or customer's warehouse in a ready-to-run condition. All that is required for installation is that the rig crew remove the protective covering prior to the DynaFORM™ being made up to the casing string. No additional assembly, running tools, or personnel are required.

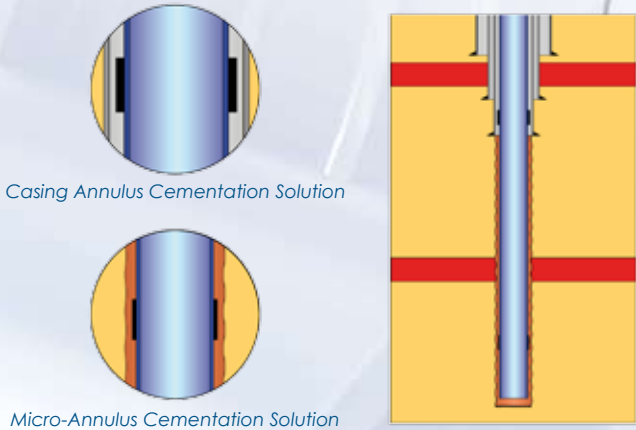


DynaFORM™ for Cementing, shown above in "full-bore" form, typically used as a replacement to cement



DynaFORM™ for Cementing, shown above in "micro annuli" form, typically used as a back-up to cement

### Typical Installation Layout



DynaFORM™ for Cementing is a bespoke design integrated into the casing and specific to the well conditions.

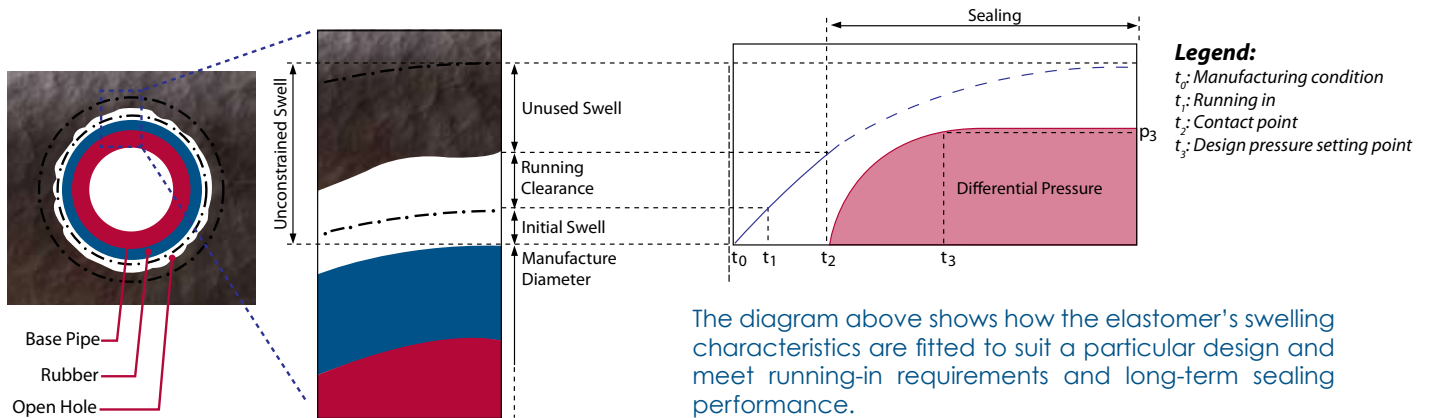
After the cementation process a DynaFORM™ swellable will react to water or oil and in full-bore form, can seal off the entire annulus in the upper casing section of the well.

In the lower section of the well, a DynaFORM™ packer will react and seal off any flow of oil or water that could be created by a micro annulus during the lifetime of the well.

### Typical Packer Specifications

Base Pipe OD (in)	2 3/8" to 20"	Time to Set	1 to 20 days
Temperature (°C)	20 to 200	Operates in Oil	Yes
Salinity (ppm)	Up to 200,000	Operates in Water	Yes
Elastomer Selection	Water, Oil, Combination	Base Pipe Material	Any, including most coatings
Sealing Pressure (psi)	Up to 10,000 psi		

### Swell Design Parameters



The diagram above shows how the elastomer's swelling characteristics are fitted to suit a particular design and meet running-in requirements and long-term sealing performance.