

# 油井水泥膨胀剂 Expanding Agent for Oil Well Cement

## 产品概述

油井水泥膨胀剂外观为灰色、黑色粉末或颗粒。无毒、无嗅，适于干混。对水泥浆稠化时间、流变性、游离水等无不良影响，加入后抗压强度明显提高，适用于常规及低比重水泥浆，同时适用于井径不规则、井径扩大的井眼，深井调整井中的平衡压力固井的压稳防窜、高压油气活跃固井使用。



## Product Overview

The oil well cement expanding agent appears as a gray or black powder or granular material. It is non-toxic, odorless, and suitable for dry blending. It has no adverse effects on the thickening time, rheology, or free water of the cement slurry, and significantly increases compressive strength after addition. It is suitable for both conventional and low-density cement slurries, as well as for irregular or enlarged boreholes. It can be used for pressure stabilization and anti-gas migration in deep well balanced pressure cementing, and for cementing operations in active high-pressure oil and gas wells.

## 性能特点

- 1、有效提高水泥浆的膨胀性能；
- 2、可增强水泥浆的强度和耐腐蚀性；
- 3、可降低水泥浆凝固时间；
- 4、可有效增强保温性能；
- 5、适用于不同井况。

## Characteristics

1. Effectively enhances the expansion performance of cement slurry.
2. Improves the strength and corrosion resistance of cement slurry.
3. Reduces the setting time of cement slurry.
4. Effectively enhances thermal insulation performance.
5. Suitable for various well conditions.

## 技术指标

项目	指标
外观	灰白色粉末或颗粒
稠化时间, min/65°C. 35MPa. 30min	≤120
膨胀率 (Ex - Ex0) , %, 塑性体 (75°C、0.1MPa)	≥0.10
膨胀率 (Ex - Ex0) , %, 硬化体 (75°C、0.1Mpa、24h)	0.01≤Ex-Ex0≤0.8
抗压强度 (75°C、0.1Mpa、24h) Mpa	≥14

## Technical Specification

Item	Specification
Appearance	Grayish-white powder or granules
Thickening Time, min / 65°C, 35 MPa, 30 min	≤120
Expansion Ratio (Ex - Ex <sub>0</sub> ), %, plastic state (75°C, 0.1 MPa)	≥0.10
Expansion Ratio (Ex - Ex <sub>0</sub> ), %, hardened state (75°C, 0.1 MPa, 24 h)	0.01≤Ex-Ex <sub>0</sub> ≤0.8
Compressive Strength (75°C, 0.1 MPa, 24 h), MPa	≥14

## 产品用途

油井水泥膨胀剂的主要作用和用途包括补偿水泥浆收缩、提高水泥石强度、降低渗透率和防窜等。

油井水泥膨胀剂通过促进水泥水化产物晶体膨胀，补偿因水泥浆收缩而产生的体积微膨胀，从而压缩水泥石孔隙并改善孔隙分布，达到提高强度、降低渗透率和防窜的效果。

膨胀剂还能提高水泥石与套管、地层之间的界面胶结强度，增强水泥环的胶结强度，防止水泥石及套管的腐蚀，控制环流。

## Applications

The main functions and applications of oil well cement expanding agents include compensating for cement slurry shrinkage, increasing the strength of set cement, reducing permeability, and preventing gas migration.

Oil well cement expanding agents promote the crystal expansion of cement hydration products, compensating for the micro-expansion in volume caused by cement slurry shrinkage. This process compresses the pores of the set cement and improves pore distribution, thereby increasing strength, reducing permeability, and preventing gas migration.

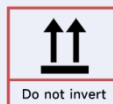
In addition, expanding agents can enhance the interfacial bonding strength between the set cement and the casing or formation, strengthen the bond of the cement sheath, prevent corrosion of the set cement and casing, and control annular flow.

## Package and Storage

## 包装与贮存

1. 25kg/袋，三合一复合牛皮纸袋包装；也可按客户要求包装。
2. 本产品储存保管时应注意防潮、防火、防高温，要求存放在通风、干燥处。

1. Packed in 25 kg triple-layer composite kraft paper bags; customizable packaging is available upon customer request.
2. This product should be stored in a ventilated, dry area, protected from moisture, fire, and high temperatures.



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