



Increase Cement Factory Production; Reduce Failure Costs

ESL locknuts ensure plant availability and equipment reliability



CHALLENGE

Consequences of Bolted Joint Failure

Ensuring maximum plant availability and equipment integrity while minimizing failure costs is crucial to operating a successful cement factory. But not all fasteners are created equal. Sustained vibration and exposure to extreme temperatures will eventually result in bolted joint failures: loss of bolt tension, loosening of joints, or seized nuts from galling and/or corrosion.

Plant downtime creates many operational and financial problems for both managers and maintenance personnel:

- Reduced production throughput
- Increased maintenance time and costs
- Significantly higher per ton costs
- Loss of profit



Ball mill

ESL LOCKNUT CHARACTERISTICS

Prevailing torque

ASME B18.16.6
(IFI 100/107)
ISO 2320

Mechanical

SAE J995- Gr.5 & Gr.8
ASTM A563, A194
ASME B18.16.6
ISO 898-2, cl.8-10-12
A2070 / A4-80
304L / 316L

Features

Installs with standard tools
Suitable for hand tools
Locks in any position
Highly reusable



WHY USE THE ESL?

Benefits of ESL Locknuts

1 Reliable and predictable performance

with no galling and no damage to bolt threads.

2 Eliminate multiple failure points

such as nylon insert nut failures, counter nut methods, or seized/welded nuts.

3 Efficient and simple installation/removal

without requiring specialized training or tools.

4 Increase plant productivity and lower costs

by eliminating unnecessary fastener failure-related maintenance and expenses.



Ball mill

What are ESL locknuts?

With an all-metal design made of a single unique material, the J.Lanfranco ESL locknut requires no insert. It derives its prevailing torque from two radially de-pitched locking slots positioned parallel to the thread pitch in the turret portion of the nut.

The locking slots are opened by the bolt threads and apply precise and controlled locking torque directly on the thread flank. As a result, this non-galling fastener technology resists all forms of dynamic and cyclical vibration without damaging the bolt threads.

SOLUTION

ESL Locknuts Prove Their Worth

In an effort to prevent bolted joint-related failures, a large European cement factory installed J.Lanfranco ESL locknuts on its ball mills. Using ESL nuts in an M30 x 2.50 (fine pitch) over the course of an entire production campaign, operations were never halted due to loosened bolts.

After this extensive evaluation period, the company issued a corporate-wide memo highlighting its success with the ESL locknut and encouraged plant superintendents to install them for their own trials.

Today, **ESL nuts are being used in M30-33-36** (fine pitch) throughout the company's many cement factories with **no quality issues** or bolt failure-related production delays.



High resistance to vibration ensures quality and removes the risk of bolt-failure related delays.