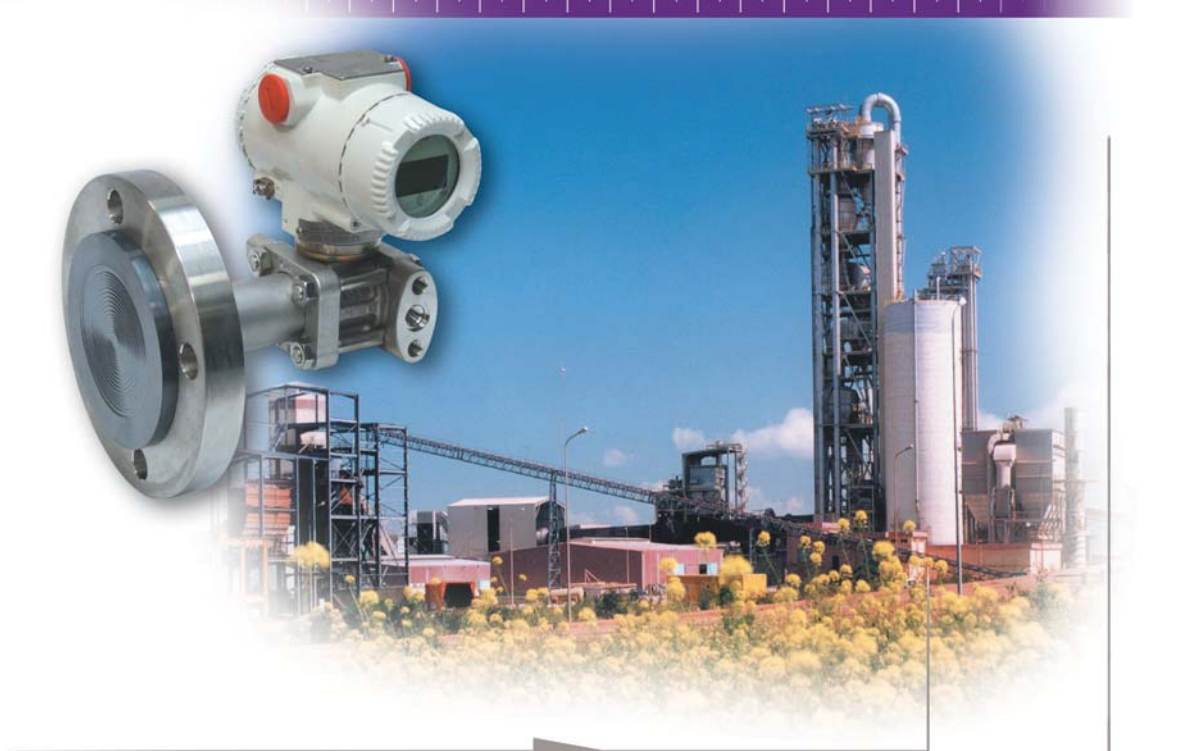


# 2600T Pressure Transmitters

## *Diaflex* Anti-abrasive Diaphragms Surface Treatment



- Anti-abrasive SST 316L TiN nanostructured diaphragm
- Best in class resistance to slurries combined with optimum performance
- Up to 10 times harder than traditional metallic diaphragms
- Available on 264, 268 and 364 pressure and differential pressure transmitters

ABB Instrumentation



# Solid Reliability

## *Diaflex*, the diaphragm protection material for measuring assets



In many process industries one of the most frequent causes for pressure transmitter failures is a damaged process diaphragm. This type of damage is the result of the action of suspended solids in the measured media causing the erosion of the thin metal diaphragm.

- Sands particles in crude oil production
- Pulp & Paper defibration
- Abrasive chemical processes
- Powder airflow transport applications
- Centrifugal separators in mining industries

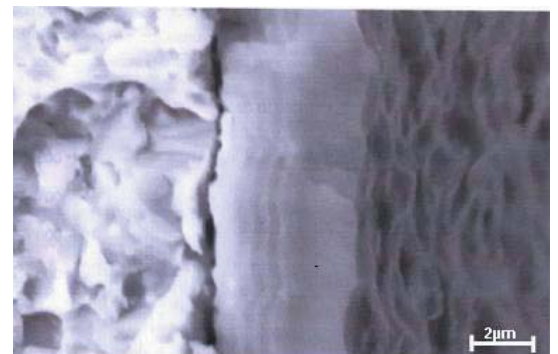


- The picture taken from a SEM (Scanning Electron Microscope) shows the structure of *Diaflex* (on the right) coated on a 316 L SST diaphragms (on the left). This photo shows the adhesion of the *Diaflex* coating to the diaphragm.

One of the properties of *Diaflex* is a smooth surface for anti-stick applications.

AISI 316 L ss

*Diaflex*



**What is *Diaflex*?**

*Diaflex* is a nanostructured material with specific antiabrasion physical characteristics. *Diaflex* is deposited via PVD technology (Physical Vapor Deposition) on both pressure and differential pressure transmitter process diaphragms.

**What are the advantages compared to ceramic?**

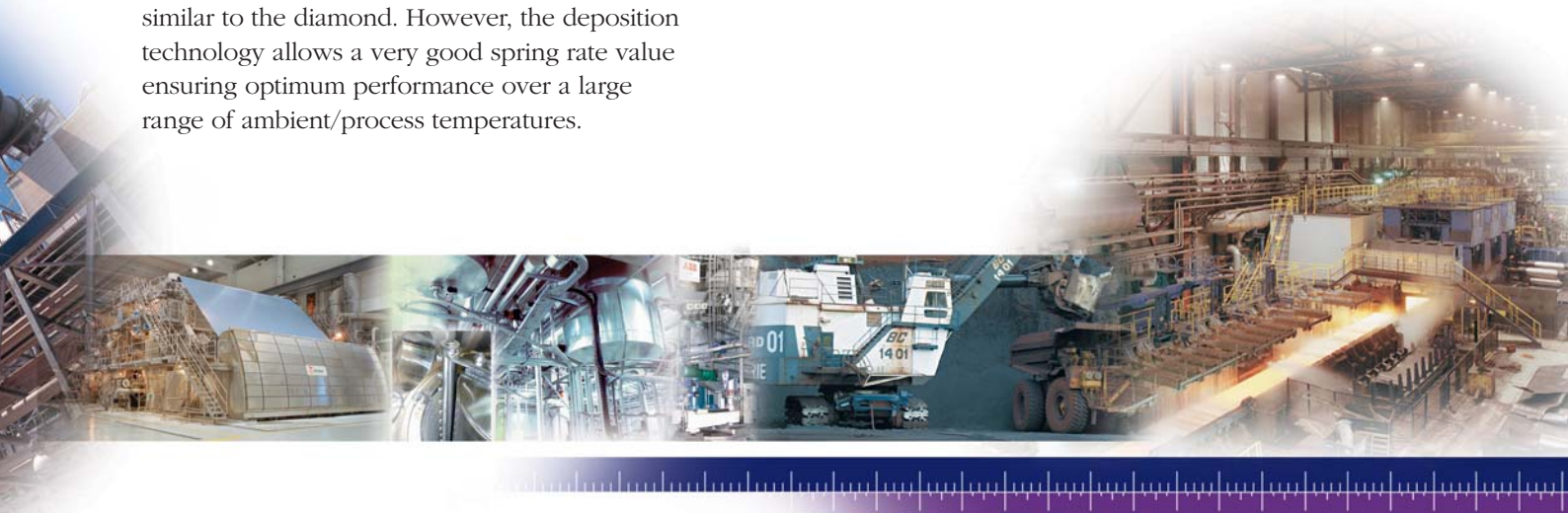
*Diaflex* has a hardness of 4000 HV, which is similar to the diamond. However, the deposition technology allows a very good spring rate value ensuring optimum performance over a large range of ambient/process temperatures.

**How stable is *Diaflex*?**

*Diaflex* physical characteristic remains stable between -100°C up to 700°C (-148° to 1292° F). However, transmitter maximum working process temperatures are limited by the fill fluid which ranges from -100°C to 390°C (-148° to 734° F).

**How thick is *Diaflex*?**

*Diaflex* coating thickness is in the range of 3 to 5 µm.



**What are the material components of *Diaflex*?**

*Diaflex* is produced via a patented process that consists in a quaternary coating based on Titanium and Silicon (SiTiN) of the nitrides class using a direct-current arc: the LARC System®. The scan on the right shows the composition of a *Diaflex* coated diaphragm.

Characteristics	<i>Diaflex</i>
Thickness (µmeters)	3-5
Maximum Temperature (°C)	700
Hardness (HV)	4000

*Diaflex* is available with S264 diaphragm seals and 264xP transmitters and can be selected from the catalogue code.

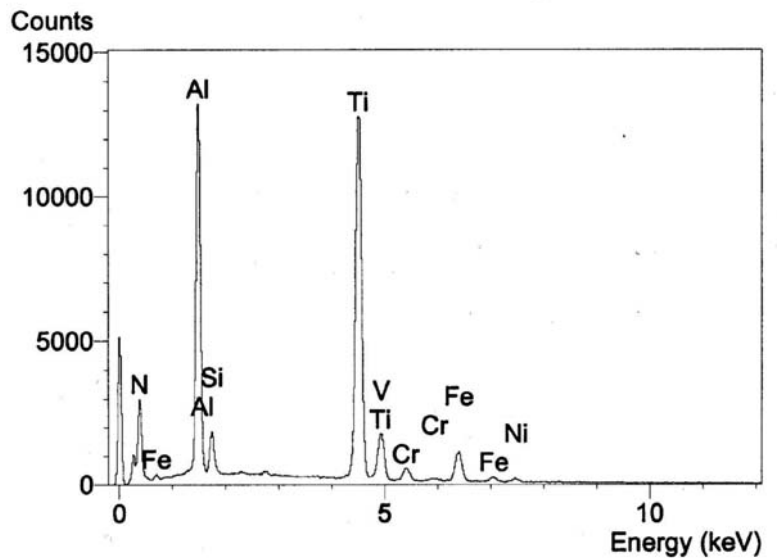


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