

# PVP 2007

## 2007 Pressure Vessels & Piping Conference



July 22-26, 2007  
San Antonio, Texas, USA

Proceedings of the ASME 2007 Pressure Vessel and Piping Division Conference  
PVP2007  
July 22-26, San Antonio, Texas, USA

**PVP2007-26645**

AN EXPERIMENTAL INVESTIGATION OF THE FACTORS THAT CONTRIBUTE TO THE  
CREEP-RELAXATION OF COMPRESSED NON-ASBESTOS GASKETS

**JOSÉ C. VEIGA**

**CARLOS CIPOLLATI**

**ANA M. F. DE SOUSA**

Teadit Indústria e Comercio Ltda.  
Rio de Janeiro, RJ, Brazil

**DAVID W. REEVES**

Chevron Refining Technology  
Richmond, CA, USA

### ABSTRACT

The adequate tightness of flanged joints contributes to maintaining safe working conditions in numerous equipment and industrial installations. The new sealing technologies and materials can require more careful selection, handling and installation than previous asbestos equivalents. Many research studies have been conducted to understand and improve the assembly bolt load of piping joints in order to minimize the likelihood of leakage. The selection of the bolt load must consider many factors, such as: minimum gasket stress to achieve a seal; the maximum stress that will damage the joint components and the amount of gasket stress lost to creep-relaxation under room temperature and service condition. It is well known that the bolt load decrease to some degree after the initial assembly due to creep-relaxation characteristics of the gasket. ASME PCC-1 recommends restoring the gasket load, after a minimum 4 hours, due to short-term creep-relaxation. This paper intends to investigate factors which may influence the creep-relaxation characteristic of the compressed non-asbestos gasket. In order to reproduce real field condition, ASME B16.5 class 300lbs flanges were used in this experimental investigation.

O trabalho completo está disponível no site oficial do ASME. [Acesse](#)

El documento completo está disponible en el sitio web oficial de ASME. [Acceder a](#)

The full technical paper is available on the official ASME website. [Go to](#)

