

Are flanges the same as cold-joints

Article Overview

Flanges are detachable pipe connections that rely on bolts and gaskets for sealing, while cold joints refer to flange assemblies tightened at ambient temperature that may be vulnerable to leakage under thermal cycling.

Flange Basics

A flange is a circular disc with a bore matching the pipe diameter, bolt holes arranged on a bolt circle, and a precision-machined face that forms a pressure-tight seal with a mating flange using a gasket and bolts (). Flanged connections are widely used in pipelines, vessels, pumps, and valves because they allow assembly, disassembly, inspection, and maintenance without cutting the pipe (). Flanges are standardized (e.g., ASME B16.5, B16.47) and selected based on pressure class, temperature, size, sealing face type, and material ().

Cold Joints and Cold Torquing

A cold joint occurs when a flange is assembled and tightened at ambient temperature, creating a seal that may not remain stable under operational temperature changes (). During thermal cycling, bolts, flanges, gaskets, and connected piping expand or contract differently, which can reduce gasket compression, redistribute bolt load, and cause leakage even if the joint passed initial hydrostatic tests (). The Cold Torquing Procedure is used in cryogenic or low-temperature systems to tighten flange bolts before the system reaches full cold conditions. This ensures uniform bolt stress, proper gasket seating, and alignment, reducing the risk of leaks in LNG, hydrogen, or other cryogenic pipelines (). Proper...

Article Content

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What are Different Types Of Flange?

This article will explain different types of flanges based on use, standardizations, specialty, and materials used in producing them.

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Flange Joint

The same types of standard fitting shapes—tee, cross, elbow, and so forth—are manufactured for flange joints. Suitable gasket

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What is a Flange: Classification and Applications

What is a flange? It is a key component in piping systems that allows safe and removable connections in multiple

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Flange Joint

A flange joint is a detachable, force- and form-fit connection of two components using matching flanges that are

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Flange Joints: Avoiding Installation Pitfalls

Installation problem areas Successful pressure joints are a combination of compatible flanges, fasteners appropriately tightened, and

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Mechanical Joint vs. Flange: Choosing the Right

Want to know more about Mechanical Joint vs. Flange? Here you will know the components, materials,

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Types of Pipe Flanges for Piping and Pipeline Systems

A pipe flange is a circular disc-shaped piping component that attaches to a pipe for blocking

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Flange Faces

Other flange facings covered by these standards include the large and small tongue-and-groove facings, and the ring

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Flange 101: Understanding the Basics

Lap joint flanges are particularly useful in piping systems that necessitate regular

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Complete Guide to Piping Flanges: Types, Applications

Comprehensive guide to piping flanges covering all 6 major types: slip-on, weld neck, socket

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Flange Connection

A lap-joint flange is a two-component assembly, with a stub end that has a lap-joint ring flange placed over it. The stub end is then

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Industrial Supplier

Hier sollte eine Beschreibung angezeigt werden, diese Seite lässt dies jedoch nicht zu.

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Fixed Flange vs Lap Joint Flange

Both flanges serve the same purpose but are unique in their design, material, and applications. If you're wondering

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How Flange Joints Work: Components, Types, and Applications

Comprehensive guide to flange joints, detailing the components, functional design variations, and essential

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8 Types of Pipe Joints and Their Uses in Plumbing [Complete Guide]

Bolted flange connections are used to connect large diameter pipes to flanged vessels or equipment or in situations where cleaning

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What Is a Flange? Types, Seal Surface & Connection Methods

A flange is a mechanical component used to connect pipes, valves, pumps, and other equipment. Learn about flange

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How Flange Connections Work: Components and Types

Flange connections are robust, removable mechanical joints used in industrial piping systems to create sealed

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Mechanical Joint Fittings vs Flange: What Are

Two common options are mechanical joint fittings and flanges. This article will delve into the

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Pipe Flanges 101 | Dixon

In terms of pipe flanges, TTMA has a specific flange pattern for consistency on tank trucks

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Mechanical Joints vs. Flanges: A Comprehensive Comparison

Mechanical joints and flanges each have distinct limitations that make them suitable for different applications.

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Get the most out of your pipes with our comprehensive guide to flanges. Explore the

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Section 5 Pipe joints

5.2.1 The dimensions and configuration of flanges and bolting are to be selected in accordance with recognised standards. The

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Mechanical Joint vs. Flange

In this article, you'll learn the fundamentals of a mechanical joint connection, flanges and when to use a

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Flange Joint

Flanged joints are a mechanical, nonpermanent method of joining two flanged piping components and one of the most commonly

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13 Different Types of Flanges and Their Applications

In this article, you will learn the different types of flanges and how they work. Their

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Flanges: What Are The Essential 5 Types Of Flanges? -

Lap Joint. Flange: - The Lap Joint flange is used with stub ends. The stub ends are welded with pipes & flanges are

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Flanged Joint

Flanged joints refer to a type of pipe joint in process plants that typically consists of two flanges, which can be either gasketed or ring

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Flange Assembly Explained

Flange types - refers to the flange design. Examples of flange types include the welding neck (weld neck),

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