



FLANGE JOINTS

June 2021

HSEQ Direct is a digital communication, registration and training platform with a focus on Health, Safety, the Environment and Quality.
Designed specifically for the workplace!





WHAT IS IT? (1/2)

A flange is a method of connecting pipes, valves, pumps and other equipment to form a piping system. Flanges are usually welded or screwed. Flange joints are made by bolting together two flanges with a gasket between them to provide a seal.



WHAT IS IT? (2/2)

FLANGE ALIGNMENT

Flanges must be properly aligned to ensure that the pressure is distributed evenly across the entire gasket. Ask your company about their specific criteria.



HAZARDS

Potential hazards of faulty flange joints are numerous: from instant bodily injuries, damage to installations and pollution of the environment.

Therefore ensure at all times that you are qualified to work on flanges, that you are using the proper PPE and the prescribed tools.



PREVENTION (1/3)

One of the main potential sources of leaks are flange joints. Preventing leaks is very important because of possible implications for your safety and that of the environment. Only certified flange operators are permitted to perform work on flange joints. Ask your company about how to obtain certification.



PREVENTION (2/3)

BOLTS, NUTS AND GASKETS

Ask your company about their policies and procedures in relation to:

- how to keep bolts, nuts and gaskets in good condition
- flange alignment
- selecting the correct bolts, nuts and gaskets
- the correct flange-gasket combination
- the tightening sequence of bolted joints



PREVENTION (3/3)

PRESERVING FLANGE JOINTS

Ask your company about their policies and procedures in relation to preserving flange Joints.

FLANGE REGISTRATION AND LABELLING REQUIREMENTS

To verify the correct manner in which to work , all flange joints should be reported/registered. Furthermore, all joints should have a label physically attached on or to the relevant flange. Ask your company about their policies and procedures in relation to this.



PROTECTION

Use standard and additional Personal Protection Equipment (PPE), as stated in the Permit to Work.



IN CASE OF...

Any incident that occurs during working with flange joints can have a severe impact on people, installations and the environment. **Make sure that you are familiar with the right procedure in case incidents occur.** If not, ask your company.

IMPORTANT INFORMATION

- 1 Make sure that gaskets, nuts and bolts are **in good condition**.
- 2 Make sure that flanges are **properly aligned**.
- 3 Always use the **correct gaskets, nuts and bolts**.
- 4 Always use the correct **flange-gasket combination**.
- 5 Make sure that bolted joints are **tightened in the correct way**.

QUESTIONS? MORE INFORMATION? UNSAFE WORKING CONDITIONS?

Your HSE Manager is there to help answer any questions and ensure a safe working environment for all.

QUESTION 1

Why are there strict instructions to make absolutely sure that flange joints are leakproof?

- A. As qualified fitters are expected to know the instructions relating to flange joints and comply with them. In addition their supervisors are also expected to know the instructions and comply with them.

 - B. As flange joints are one of the main potential sources of leaks in installations.

 - C. As flanges must be properly aligned and permanently sealed to ensure that the pressure is distributed evenly across the entire gasket. This prevents spills.

-

ANSWER 1

Why are there strict instructions to make absolutely sure that flange joints are leakproof?

A. As qualified fitters are expected to know the instructions relating to flange joints and comply with them. In addition their supervisors are also expected to know the instructions and comply with them.

B. As flange joints are one of the main potential sources of leaks in installations.

C. As flanges must be properly aligned and permanently sealed to ensure that the pressure is distributed evenly across the entire gasket. This prevents spills.

QUESTION 2

Why is it important to prevent leaks?

.....

A. To demonstrate familiarity with the right procedure(s).

.....

B. As they would invalidate certificates.

.....

C. Due to their severe impact on people, installations and the environment.

.....

ANSWER 2

Why is it important to prevent leaks?

.....

A. To demonstrate familiarity with the right procedure(s).

.....

B. As they would invalidate certificates.

.....

C. Due to their severe impact on people, installations and the environment.

.....



QUESTION 3

Why must flanges be properly aligned?

.....

A. To ensure that the pressure is distributed evenly across the entire gasket.

.....

B. To ensure that there is no pressure across the entire gasket.

.....

C. To ensure that the gasket can be easily opened.

.....



ANSWER 3

Why must flanges be properly aligned?

A. To ensure that the pressure is distributed evenly across the entire gasket.

B. To ensure that there is no pressure across the entire gasket.

C. To ensure that the gasket can be easily opened.

QUESTION 4

Which tools do you use for tightening bolted joints?

- A. Dependent on the flange diameter and pressure class you use hand tools, a mechanical or hydraulic torque wrench, punch flange tool, a hydraulic jack. Ask your company about this.
- B. Dependent on the flange diameter and pressure class you use hand tools, a mechanical or hydraulic torque wrench, crimper, a hydraulic jack. Ask your company about this.
- C. Dependent on the flange diameter and pressure class you use hand tools, a mechanical or hydraulic torque wrench, a hydraulic jack. Ask your company about this.

ANSWER 4

Which tools do you use for tightening bolted joints?

- A. Dependent on the flange diameter and pressure class you use hand tools, a mechanical or hydraulic torque wrench, punch flange tool, a hydraulic jack. Ask your company about this.
- B. Dependent on the flange diameter and pressure class you use hand tools, a mechanical or hydraulic torque wrench, crimper, a hydraulic jack. Ask your company about this.
- C. Dependent on the flange diameter and pressure class you use hand tools, a mechanical or hydraulic torque wrench, a hydraulic jack. Ask your company about this.**

QUESTION 5

Who are permitted to perform work on flange joints?

.....

A. Those who perform a Last Minute Risk Analysis.

.....

B. Only certified flange operators.

.....

C. Only HSE Managers.

.....



ANSWER 5

Who are permitted to perform work on flange joints?

A. Those who perform a Last Minute Risk Analysis.

B. Only certified flange operators.

C. Only HSE Managers.