

Blinding and De-blinding



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What is Blinding and De-blinding?

Blinding

Positive isolation or potential hazardous material.

De-blinding

Equipment back into production.



Risks:

Hazard Identification

Risk Assessment

Job Safety Analysis

Key stages of process isolation



Key stages of process isolation:

- 1. Hazard identification**
- 2. Risk Assessment and selection of isolation scheme**
- 3. Planning and preparing of equipment**
- 4. Isolation**

Key stages of process isolation:

- 5. Draining, venting, purging and flushing**
- 6. Testing and monitoring**
- 7. Carrying out the intrusive activity**
- 8. Reinstatement**



Hazard identification:

Isolation failure -> Loss of containment

- **Escalation to major accident**
- **Harm to people**
- **Equipment or property damage**

Hazard identification:

Substance's flammable / toxic harmful properties

- ❖ **Present at high pressures**
- ❖ **High or low temperatures**
- ❖ **Reactivity**
- ❖ **Can create hazardous environment – asphyxiation or drowning**
- ❖ **Explosive atmosphere (including dust)**
- ❖ **Forms sludge or hard deposit in equipment**



Risk Assessment

Assessment of the **failures** that can occur during the **isolation activity**, the likelihood of these failures, and their consequences, then the selection of the appropriate type and level of controls.

Risk Assessments (ANABEEB):

Breakdown of all our activities into categories such as as:

- Natural & Environmental Hazards
- Effect of activities on surroundings
- Infrastructure
- Environmental damage
- Facility hazards
- Process hazards
- Utility hazards
- Maintenance hazards

Develop a Risk Assessment Worksheet:

- ✓ Guide words
- ✓ Hazardous events
- ✓ Potential consequences



Job Safety Analysis (JSA):

To do the Job Safety Analysis:

- **Select the jobs associated with HIGH Risk activities**
- **Do a breakdown of the job into tasks**
- **Do Job Safety Analysis for the tasks involved to perform the job**



Tools

There are some common tools to do this job namely:

1. Flogging spanner (open and close)
2. **Ring flat spanner**
3. **4^{pd} / 8^{pd} / 16^{pd} hammer**
4. **1" / 1½" Impact wrench, sockets and safety pin**
5. **Wedges**
6. **Flange spreader**
7. **Pinch bar (Crow bar)**

Blinding and de-blinding tools

Flogging spanner (open and close)



Blinding and de-blinding tools

Ring Flat Spanner



Blinding and de-blinding tools

4^{pd} / 8^{pd} / 16^{pd} hammer



Blinding and de-blinding tools

1" / 1½" Impact wrench, sockets and safety pin



Blinding and de-blinding tools

Wedges



Blinding and de-blinding tools

Flange spreader



Blinding and de-blinding tools

Pinch bar (Crow bar)



Blinding and de-blinding tools

Drifts



Critical Vessels:

Pipelines
Processing vessels
Heat exchangers
Tanks



Can a valve be trusted?



Types of blinds:

1. Plain blinds
2. Spectacle blinds
3. Swing types

Even isolation can fail – mechanical / human errors



Basic Steps

Dangers:

Unsafe process equipment (valves, drains, gauges)

Wrong tools

Unqualified / in-experienced workers

Basic steps for blinding:

Before we do the blinding:

1. **Technical Scope of Work**
2. **Risk Assessment & Job Safety Analysis**
3. **Blinding list**
4. **Torque values from the client if required.**
5. **Decommissioning of equipment and vessels.**

Basic steps for blinding:

Before we do the blinding:

6. Preparations before your blinding work starts
7. Permit to Work
8. Toolbox talk at the jobsite.

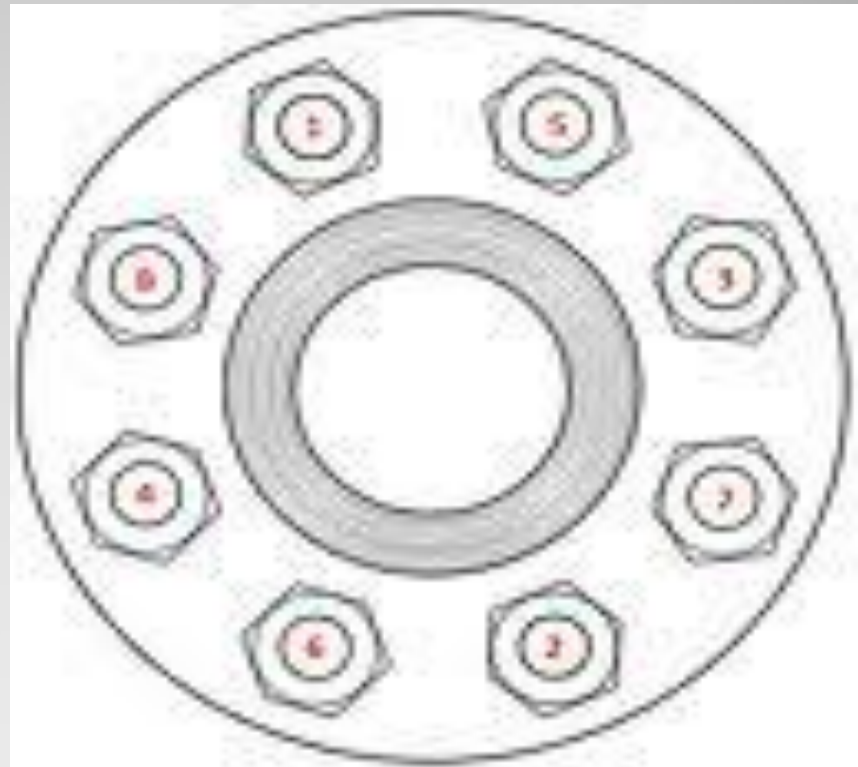
Permit to Work:

How important is a Permit to Work?

Basic Steps for blinding:

Securing the blind:

- New gaskets.
- Tightening sequence



De-blinding

Procedure:

1. **Permit to Work**
2. **Precautions to bear in mind (Fluid on process side)**
3. **Clean sealing surface.**
4. **Use new gaskets.**
5. **Make sure that all bolts and nuts are serviced or replaced.**

De-blinding

- **Insert the bottom half of the bolts.**
- **Insert gasket.**
- **Insert the rest of bolts leave 2 open- east to west**
- **Line up flange with pinch bar**
- **Tighten bolts and remove the drifts or pinch bar.**
- **Tightening the flange - Chris cross method.**
- **The bolt must have an even thread on both sides of a minimum of 3 threads, when it's fully tightened.**

Finally:

Inspections and Housekeeping:

Permit Close-out

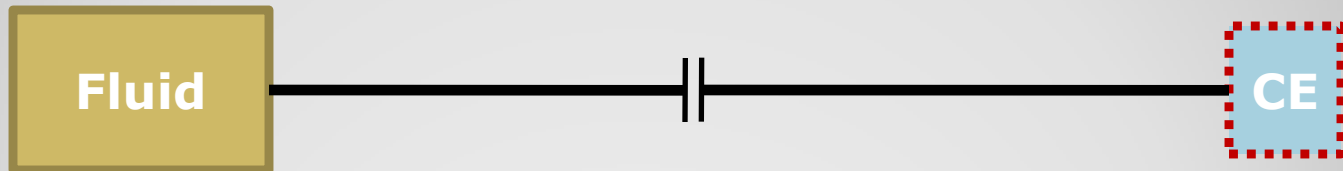
What about a de-blinding procedure?



Valve configuration:

Positive isolation:

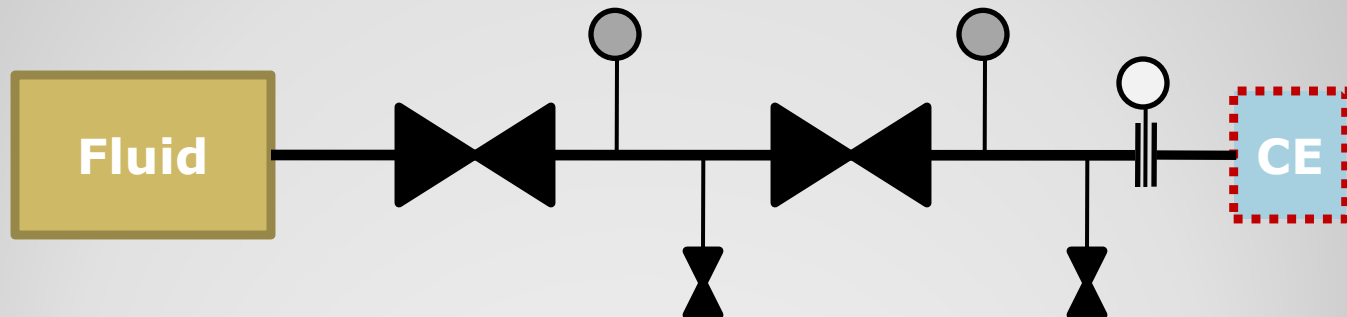
Physical disconnection



Valve configuration:

Positive isolation:

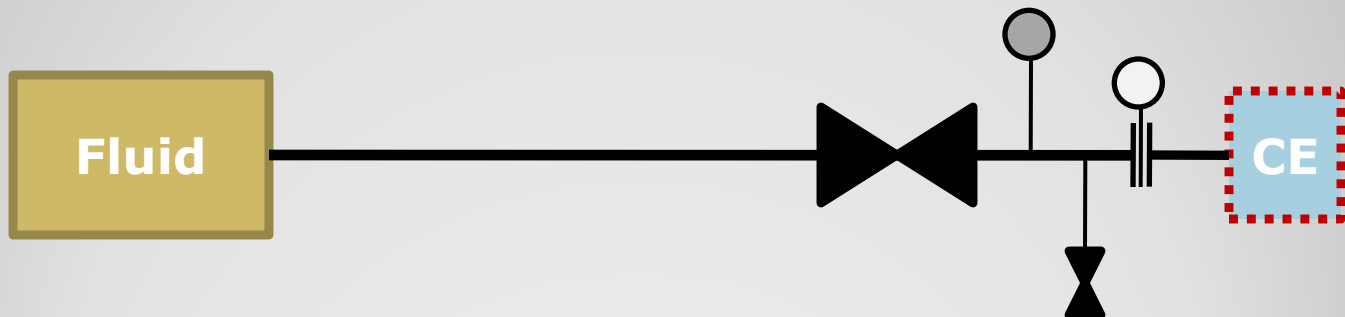
Double block, bleed and spade



Valve configuration:

Positive isolation:

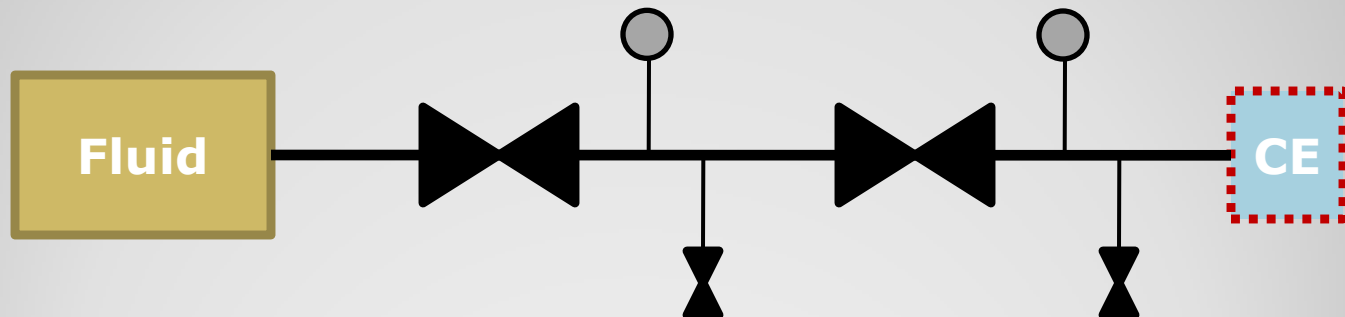
Single block, bleed and spade



Valve configuration:

Proved isolation:

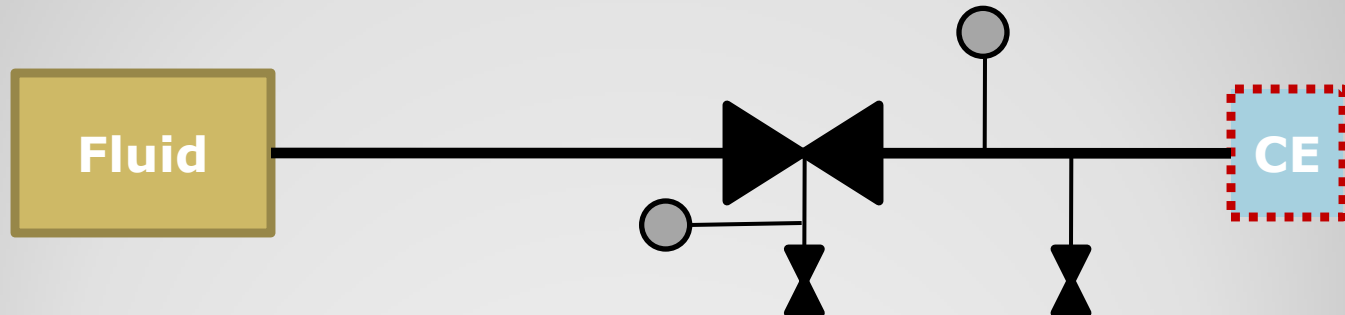
Double block and bleed



Valve configuration:

Proved isolation:

Double seals in a single valve body with a bleed in-between

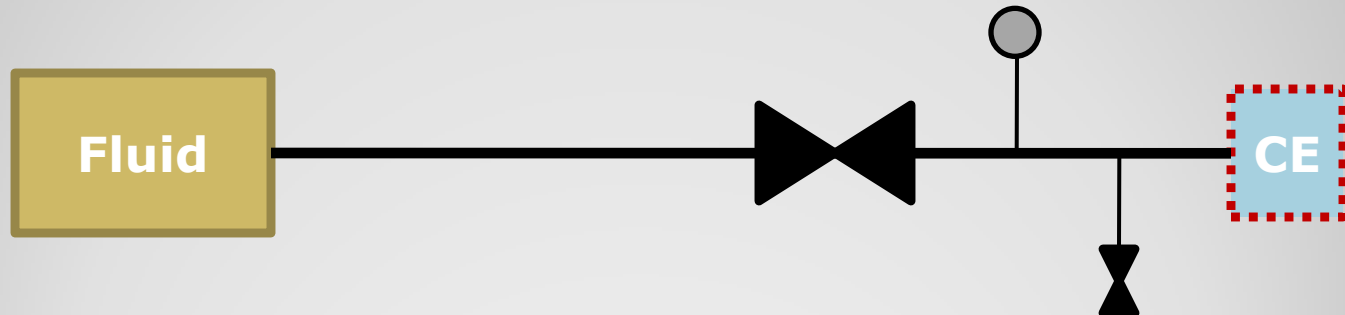


Valve configuration:

Proved isolation:

Single block and bleed

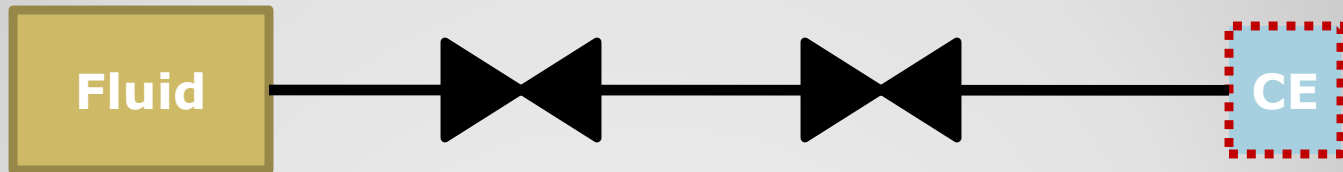
NOT for hazardous substances



Valve configuration:

NON-Proved isolation:

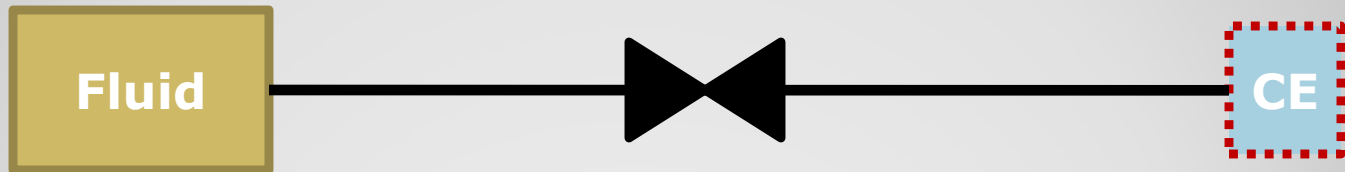
Double valve



Valve configuration:

NON-Proved isolation:

Single valve



Minimum Blind Thickness

American Society of Mechanical Engineers

Code:

B16.48 – 2005 Line Blank

ISBN #: 0791829979



Final Precaution:

Opening of the flange (blinding):



I thank you kindly!

**Take care, next time you prepare
for blinding/de-blinding**