

# Fire Safe Valves

Valves for oil and gas industry.

## APPLIED STANDARDS

Somas has developed a range of butterfly valves that comply with EN ISO 10497 and API 607 standards. Typical applications for these valves are found within the oil and gas industry.



## WHAT IS A FIRE SAFE VALVE?

A Fire Safe Valve is a valve that can maintain its pressure containing capabilities during and after a certain period of time exposed to fire.

This kind of valve is used to prevent hazardous or flammable fluid leaking from the valve during a fire.

## SOMAS FIRE SAFE VALVES - DESIGN

Somas Fire Safe Butterfly Valves are based on our standard butterfly valves with PTFE seats, the main difference is the backup seats made from a nickel alloy.

During normal use the valves will work exactly like standard butterfly valves with PTFE seats. But in case of a fire which the PTFE seat cannot handle, the backup seat will take over.

The backup seat is not as tight as the PTFE seat, but good enough according to EN 10497 and API 607.

Somas fire safe valves can be supplied according to NORSOK as well as other oil and gas standards.

## HOW IS A FIRE SAFE TEST CONDUCTED?

A leakage test is carried out with water, to a test pressure of 1,4 times maximum allowable pressure at 20 °C.

Gas burners are ignited exposing the valve to a continuous fire for 30 minutes. During this period the valve is required to reach and withstand a temperature between 750-1000 °C.

When the valve is on fire there is a constant water pressure of 2 bar in the pipeline while also checking the leakage.

The valve is left to cool off for 5 minutes. Water sprinklers are then turned on for 10 minutes to cool the valve further, the target temperature is below 100 °C. The valve is tested to make sure it can still be fully operated.

The pressure in the pipeline is increased to 14 bar, this goes on for 10 minutes while checking the valve for external leakage.

The test takes about 60 minutes in total. If the valve passes all steps in this procedure without remarks it is certified as Fire Safe.



### SUMMARY

- Somas Fire Safe Butterfly Valves can maintain its pressure containing capabilities during and after a certain period of time exposed to fire.
- Somas Fire Safe Butterfly Valves complies with EN ISO 10497 and API 607 standards. Can be supplied according to NORSOK as well as other oil and gas standards.
- Somas Fire Safe Butterfly Valve are based on our standard butterfly valves with PTFE seats, but it also have a backup seats made from a nickel alloy.

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