

# PRECAUTIONS FOR USE - INSTRUCTIONS

## A. PRECAUTIONS FOR USE

### **Storage**

Our packers are manufactured using natural rubber. Their performances and qualities can be impaired by long exposure to excessive heat or light.

### **Temperature**

As an indication, the extremes of temperature for a short period are from – 45° to + 65°C.

### **Inflation and deflation**

Oil and other fluids incompatible with natural rubber must be avoided for inflation. When possible, we **recommend the use of water as inflation fluid**.

In some circumstances, when the packer is being inflated at considerable depth in vertical and empty hole, it is necessary to inflate the packer using compressed air or nitrogen as the hydrostatic pressure of the column of water would be sufficient to keep the packer inflated (a quick bleed-off valve can be mounted – see hereunder).

When the packer is inflated with gas for long periods, “Bubbles” may appear on the outside of the sleeve. This is due to the passage of the gas through the “micro-pores” in the natural rubber. If this happens, carefully puncture the outer skin.

**The packer’s deflation, particularly when inflated with water, requests a certain delay, variable according to inflation hose length and section as to the inflated packer volume. This delay can reach several minutes especially for the biggest diameters. Packer is recommended to rest a few minutes before retrieving even when the inflation manometer is back to zero.**

Note: it is important not to exceed the maximum inflation pressures in relation to borehole diameter.

**The inflation pressure should be superior to the injection pressure, particularly when inflating with nitrogen or compressed air.**

We do not recommend using a packer at the limit of its expansion. Leave a sensible safety margin.

## B. POSSIBLE EXPLANATIONS WHEN PACKER DAMAGED

- Cavities in a washed out borehole
- Sharp or pointed fragments in the borehole which could pierce the sleeve
- Soft ground not having the strength to resist the packer expansion
- Natural back pressure (ex: Artesian well)
- Etc...

## C. SOME MISUSES WHICH COULD DAMAGE THE PACKER

- Too high inflation pressure (see table of maximum working pressure)
- Too high injection pressure, including surges of pressure during injection
- Obstruction to the sliding ends
- Faulty inflation equipment
- Etc...

Under any circumstances, the use of an inflatable packer is an activity which requires appropriate care and attention, especially when inflated with gas.

### **QUICK BLEED-OFF VALVE**

#### **For dry boreholes**

Driven by: Air: 6/7 bar  
Water: 30 bar

Secured:  
Directly mounted on packer’s head

Stop valve: 400 bar brass

Pilot head: 100 bar stainless steel



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