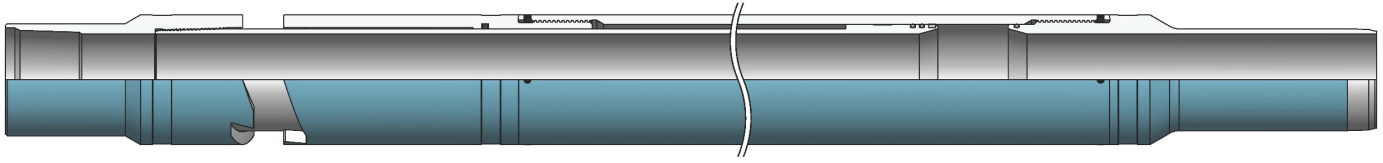


# Shared Expansion Joint



In wells where different types of heat media are used to assist in production, there will usually reside thermal expansion and contraction movements of the well bore tubular. As heat is applied to the well, the tubular exposed to the heat will expand. As this heat is reduced, the tubular will cool and contract. If these tubulars are not allowed to move, these stresses will reside within the tube's material and create damage. Tubular that are not allowed to move freely can collapse with compressive loads, and part with tensile loads. Installing an Expansion Joint (EXP) within a confined tubular string, will allow movement of that tubular string, which would otherwise have been damaged from the induced stresses.

In General, the EXP consists of an inner tube inside an outer tube. The outer tube will connect to the upper section of the tubular string, and the inner tube will connect to the lower portion of the tubular string. The EXP is designed so that the inner tube can side up and down inside the outer tube without becoming dislodged. The EXP designed movement lengths will vary depending on the application required. The Seal Assemblies that reside in these EXP will also vary on the requirements of specific wells.

**Shared Expansion Joint (SEP):** The Shared Expansion Joint (SEJ) is an EXP that combines the features of a Completion Expansion Joint (CEJ) and a Drilling Expansion Joint (DEJ). The CEJ does not hold torque, while the DEJ can hold torque. The SEJ can hold torque in the closed position. When the SEJ is in any other position but closed, it will not hold any torsional loads. The SEJ is an important EXP when used in Monobore casing wells. For more information on the Monobore refer to "Completion Systems". It allows the upper portion of the well that is cemented, to be rotated. The lower portion of the well that is in open hole and not cemented, will not rotate. This lowers the torsional loads at surface during the cementing and allows rotation of the string throughout the cementing practice. At the end of cementing, the SEJ can be opened fully while the cement is cured, allowing it to act as an expansion joint for the uncemented production casing below it. The SEJ is also used in wells where there are extreme bends or Doglegs in the build section of a well. During cementing, rotation of the casing string through these areas can damage the casing, as well as increasing rotational torque to the entire liner. By placing the SEJ directly above the concerned area, the casing string will not rotate in this area, reducing torsional loads and casing damages. When the SEJ is installed in tubing or completion strings, its ability to rotate can assist in manipulating other mechanical operated tools downhole. It can also be positioned in an opened position when no torque requirements are needed.

The length of thermal expansion and contraction can range from 0.5m to 3.0m per SEJ. The seal assemblies are thermally rated to seal under high temperatures and pressures.

## APPLICATION:

- For use in vertical or horizontal thermal wells (css or sagd).
- For use in wells where the tubular string is confined and requires thermal growth movements.
- Can be used in open hole or cased hole wells.
- For use in liners to be cemented to reduce casing torque and damage.
- For use in wells where torque transfer is required through the SEJ.
- For use in wells where torque transfer is not required through the SEJ.

## FEATURES:

- Seal assemblies with debris cleaning capabilities.
- Up to 3-meter movement within each SEJ.
- Same strength characteristics as the casing or tubing being run with.

## BENEFITS:

- Reliable sealing under high temperatures and pressures, during movements.
- Eliminates extensive damages to tubular strings from induced stresses.



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