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(54) **Title:** MODULAR STRESS JOINT AND METHODS FOR COMPENSATING FOR FORCES APPLIED TO A SUBSEA RISER

(57) **Abstract:** Modular stress joints usable to compensate for forces applied to a subsea riser or other structure include a base member and one or more additional members. Members having desired lengths can be selected such that the sum of the length of the base member and additional members defines a desired total length. Members having desired wall thicknesses can be selected such that a combination of the wall thicknesses of the base member and each additional member defines an overall wall thickness or stiffness. The total length, overall wall thickness, or both correspond to expected forces applied to the subsea riser or structure, such that the stress joint is adapted to compensate for the forces and prevent damage. The number or length of members used and their thickness or other characteristics can be varied to provide multiple lengths and stiffnesses, such that the stress joint is modular and reconfigurable.

