

PETROCLAMP CABLE PROTECTORS

In the deviated well, for worst case scenario where cables and protectors are at low side (seal bore packer as reference point for slack off), as depicted in Figure 1, the protector is very likely subjected to high lateral forces. For example at net slack off weight of 20Mt at 30 deg angle, the resultant lateral force, F_{Lateral} taken by protector could be as much as 10Mt. Therefore, sufficient load rating protector would be needed to take the load and protect the cables. Competitor's protectors of all-metal-stamped –mild-steel-pinned type would not take as high as 10Mt lateral load.

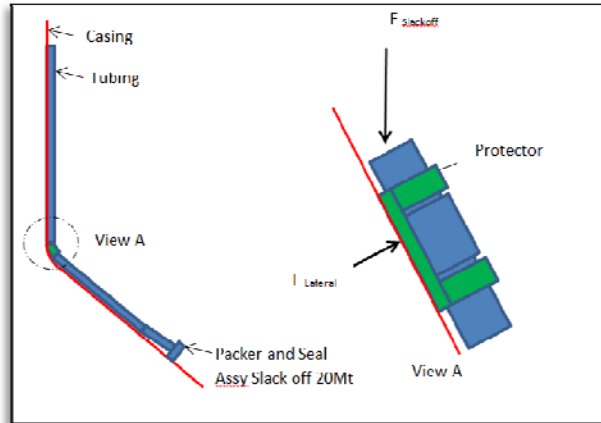


Figure 1: Slack Off Weight Will Be Transferred as Lateral Force in Deviated Well

PETROCLAMP protectors are made as per ASTM standard, where the right carbon content with the right heat treatment method would give the strength that the protectors would need and as well as the right hardness of less than 235 HB to comply with NACE MR0175 for sour environment. The Competitors protectors of all-metal-stamped –mild-steel-pinned type is usually made of mild steel which has hardness of HB120.

PETROCLAMP protectors are fastened using fully covered bolt type with barrel nut fasteners which has predetermined optimized torque value of 30lb ft which will ensure that the protectors is installed firmly as opposed for the pinned type fastener that can get easily slide off the protectors by small amount of force.

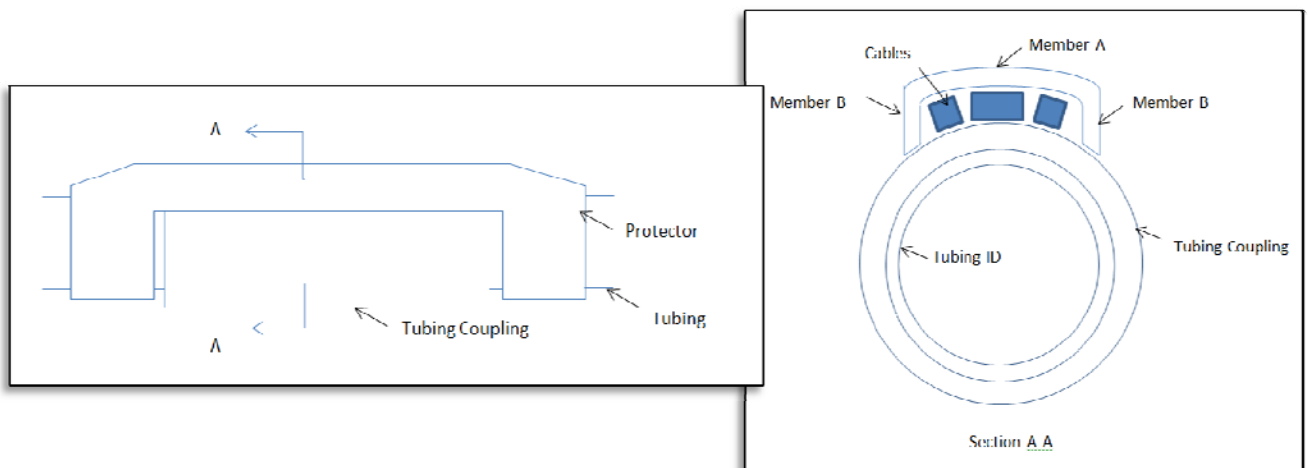


Figure 2: Cross Section of installed Protector at Mid Body

PETROCLAMP protectors are design in such a way that the protective main body member A as shown above is fully supported by member B. Should the member A deflects by a predetermined gap or more due to high perpendicular lateral force, member B will stop any further deflection and still protect the cables.