Siemens Energy composite long rod insulators combine the highest levels of electrical insulation and mechanical tensile strength in a compact, lightweight one-piece housing design with two different sealing options depending on the customer requirements:

- **Sealing system A up to 210 kN:**
  The triple point is directly overmoulded and totally encapsulated in the HTV silicone housing.

- **Sealing system B 100 kN – 630 kN:**
  The triple point is totally encapsulated since the gap between housing and end fitting is completely sealed with elastic silicone gel.

All 3FL long rod insulators are designed and tested in compliance with the latest versions of IEC 61109, ANSI 29.11, ANSI 29.12 and CSA C411.4-16.

- Voltage class \( (U_m) \): 72.5 kV – 800 kV
- Mechanical class (SML): 70 kN – 630 kN
- For suspension and tension application
- ECR Glass (boron free) brittle fracture resistant FRP rod (hydrolysis- and acid-resistant)
- HTV silicone rubber with hydrophobicity transfer mechanism for highest pollution performance
- Direct injection silicone molding process prevents partial-discharges
- Forges steel and fittings according to IEC 61466-1 and ANSI C29.2
- Integrated grading ring reduces electrical field stress
- Also available in combination with the line hardware and line surge arrester