Table 1: Polarization losses due to various components and diagnostic tools typically used in their estimation:

|  |  |  |  |
| --- | --- | --- | --- |
| **Polarization** | **Component** | **Typical value** | **Diagnostic tool** |
| Kinetic | Anode | 10-20 mV/decade | Half-cell (H2/H2) |
|  | Cathode | 120 mV/decade | RDE |
| Ohmic | Membrane | Iρl, ρ = 0.1 Ω m, l = 50-175 μm | Current Interrupt |
|  | Bipolar plate | Iρl, ρ = 0.05 mΩ m, l = 2-5 mm | Four probe method |
|  | Catalyst Layer | Iρl, ρ = 0.2-1 Ω m, l = 5-20 μm | EIS, H2 pump |
|  | Contact resistances | IR, R = ~15-30 mΩ cm2 | - |
|  | GDL | Iρl, ρ = 0.1-0.2 mΩ m,  l = 100-300 μm | Four probe method |
| Concentration | H2, O2 | Nernstian | Helox |

.