1. **NAME PLATE DETAILS**

Sl. no. :

Make :

Power Capacity :

Voltage Rating :

Vector Group :

% Impedance at Nominal Tap:

Normal Tap :

Frequency : 60 HZ

Primary Current :

Secondary Current :

NO. of Taps :

1. **MECHANICAL CHECK AND VISUAL INSPECTION**

|  |  |  |
| --- | --- | --- |
| Item | Description | Remarks |
| 1 | Inspect For Physical Damage/Defects |  |
| 2 | Check Nameplates data against contract specifications |  |
| 3 | Check colour, earthing, painting, external damage, oil leakage, wheel stopper, cable connection and bolt tightness. etc |  |
| 4 | Check all Position of the off load tap - changer with its indications and alarms |  |
| 5 | Check all devices are labeled correctly as per drawing |  |

1. **Insulation Resistance & Polarization Index Test**

**Insulation Checked With 5kV MEGGER**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Time | HV-LV | HV- Earth. | LV- Earth. | Remarks |
| 30 Sec. |  |  |  |  |
| 1 min |  |  |  |  |
| 2min |  |  |  |  |
| 3 min |  |  |  |  |
| 4 min |  |  |  |  |
| 5 min |  |  |  |  |
| 6 min |  |  |  |  |
| 7 min |  |  |  |  |
| 8 min |  |  |  |  |
| 9 min |  |  |  |  |
| 10 min |  |  |  |  |
| P.I. |  |  |  |  |

NOTE: Polarization Index = IR Value at 10 min. / IR Value at 1 min

1. **WINDING RESISTANCE TEST**

Amb Temp.: ⁰C

* 1. HV Winding

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Tap Position | Measured Value (Ohm)HV side | | | Mean (ohm) | Mean Value @ 75°C(ohm) | Factory Value @ 75°C (ohm) | Remarks |
| R - Y | Y - B | B - R |
| 1 |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |  |

* 1. LV Winding

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| r – ~~y~~ n | y – ~~b~~ n | b – ~~r~~ n | Mean | Mean Value @ 75°C | Factory Test Value @ 75°C | Remark |
|  |  |  |  |  |  |  |

Temperature correction formula:

R @ 75°C = (235 + 75 / 235 + Tm) x Rm

Where, Rm = Measured value of resistance

Tm = Temp. During measurement

1. **MAGNETIZING CURRENT**

Condition:

1. three phase voltages applied on HV side, by keeping LV side open.
2. Current measurement carried at HV terminals.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| TAP No. | Applied Voltage @ Primary Winding (V) | | | Magnetizing Current in m A at Primary Winding | | |
| R - Y | Y - B | B - R | IR | IY | IB |
| 1 |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |

1. **VECTOR GROUP:**

Tap No.

Connect (R) to (r)

Apply 3 Phase balance supply to HV side.

Drawing:

Measured voltages following

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | R | Y | B | N | r | y | b |
| R | **×** | **×** | **×** | **×** | **×** | **×** | **×** |
| Y |  | **×** | **×** | **×** | **×** | **×** | **×** |
| B |  |  | **×** | **×** | **×** | **×** | **×** |
| N |  |  |  | **×** | **×** | **×** | **×** |
| r |  |  |  |  | **×** | **×** | **×** |
| y |  |  |  |  |  | **×** | **×** |
| b |  |  |  |  |  |  | **×** |
| n |  |  |  | **×** |  |  |  |

Result: Vector Group \_\_\_\_\_\_\_\_\_

1. **CALIBRATION OF OIL TEMPERATURE SENSORS**

Start Temp. Reading: OTI = °C

|  |  |  |
| --- | --- | --- |
| Item | Standard Thermometer Reading (°C) | Main TR. OTI Reading (°C) |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |
| 4 |  |  |
| 5 |  |  |

1. **RATIO TEST**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| primary | | Sec Volts | Calc. Ratio | R - Phase | | Y - Phase | | B - Phase | |
| Tap | Volts | Measured | % E | Measured | % E | Measured | % E |
| 1 |  |  |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |  |  |  |

1. **INSULATING OIL DIELECTRIC STRENGTH TEST**

According to IEC 156, Electrode Gap is set at 2.5 mm and for transformers in service with maximum operating voltage up to 36kV the minimum breakdown voltage is to be 40kV.

|  |  |  |  |
| --- | --- | --- | --- |
| Number of Trials | Breakdown Voltage (KV) | | Remarks |
| Sample 1 | Sample 2 |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
| Average Reading. |  |  |  |
| Remarks |  | | |