

DRAFT AMENDMENT NO. 62012
TO
IS 14220: 1994 OPENWELL SUBMERSIBLE PUMPSET – SPECIFICATION

(Page 7 Clause 10.2.1) – Add the following new paragraph at the end:

For checking the non-overloading requirements in the operating head range, a 7% plus tolerance on the maximum current rated current (maximum) value shall be permitted. In the case of lesser value rated current (maximum) declaration by the manufacturer, only 7% plus tolerance shall be allowed for the declared rated current (maximum).

(Page 6 Clause 7.4.6.2, also see Amendment No.1) – Substitute following for the existing;

7.4.6.2 Type test

Submersible motors shall conform to all the requirements of IS 9283. However, in case of pumpset, motor may not be tested for full load test [16.1 (g)], performance characteristics [16.1 (h)] momentary overload test [16.1(m)], vibration test [16.1(n)], temperature rise test [16.1(j)] and temperature rise at reduced voltage test [16.1(k)] as per IS 9283. Temperature rise test however shall be done as per **7.4.6.3**.

(Page 6 Clause 7.4.6.3) – Substitute following for the existing:

7.4.6.3 Temperature rise test

Temperature rise test for winding shall be carried out on sample pumpset:

at rated voltage and supply frequency, and
at 85 percent of rated voltage and supply frequency.

7.4.6.3.1 Temperature rise test at rated voltage

Run the pumpset at rated voltage and at maximum current in the operating head range for 2 h. Stop the set and measure the winding resistance and water temperature within 30s. Temperature rise computed by resistance method as per 19.2 of IS 9283 shall not exceed 35°C.

(Page 6, Clause 7.4.6.4) – Delete the clause no. and insert the following for the existing:

7.4.6.3.2 Temperature rise test at reduced voltage

The test shall be carried out immediately after temperature rise test at rated voltage. The pumpset shall run at maximum current in operating head range at rated voltage. After reducing the voltage to 85 percent of rated voltage, in this condition, run the pumpset for 1 h and then to measure the winding resistance. Temperature rise so computed shall not exceed 45°C.

Water temperature in tests in **7.4.6.3** shall not exceed 45°C.

The temperature rise test at reduced voltage shall not be applicable for category 'A' Submersible motors.

(Page 6 *Clause 7.4.6.5*) –Renumber the clause as **7.4.6.4** and re-number rest of the clauses.

(Page 7, *Clause 10.2.1*)- Add a new clause:

10.2.4 The Pumpset shall be tested at rated conditions and the maximum current consumption of the pumpset at the operating head range shall be verified. The actual verified current should be more than the permissible limit of maximum current of next lower rating specified in column 3 of the Table 2 of IS 9283:1995.

NOTE: The above clause is to ensure proper rating of pumpset

(Page 7, *clause 10.2.2*) - Substitute '**7.5.2**' for '**7.7.1**'.

(Page 8, *Fig. 5, Notes 2*) - Insert the following new 'Note':

3 Efficiency of the pumpsets having declared duty points beyond the efficiency lines on either side may be declared by the manufacturer and applicable tolerance apply. Where the point lies in between the efficiency lines, the higher value is taken as minimum efficiency.

(Page 9, *Fig. 6, Notes 2*)- Insert the following new 'Note':

3 Efficiency of the pumpsets having declared duty points beyond the efficiency lines on either side may be declared by the manufacturer and applicable tolerance apply. Where the point lies in between the efficiency lines, the higher value is taken as minimum efficiency.

