ISO 9001:2008 Certified Company

Trade Perfections

THE ONLY TRANSFORMER MANUFACTURING COMPANY IN THE COUNTRY LOCATED AT SPECIAL ECONOMIC ZONE, NOIDA

Trade Perfections is a manufacturer & exporter of Power & Distribution Transformers following an ISO 9001:2008 Certified System where quality is the result of commitment to hard work and total dedication to deliver the best. In order to achieve the highest level of production excellence, advanced equipment, certified quality material and standard industry processes are meticulously adhered to. It continues with the company's investment in continuous R&D, design facilities, fabrication, assembly, man power training, Quality Control, and standards norms.

Trade Perfections is having its own huge state-of-the-art setup in well facilitated and connected industrial area of Special Economic Zone in Noida for the manufacturing of 11KV to 132 KV class of Power Transformers upto 40 MVA.

The Trade Perfections Advantage:

- . Located in Special Economic Zone in Noida which is India's most advanced & strategically located city availing following unique facilities
- . On the spot custom clearance & ware housing facilities.
    - . Duty free imports of raw material from any where in the world.
    - Single Window clearance of imports & Exports.
    - . Inland Container Depot (just nearby SEZ – ICD TKD & DADRI)
- ISO 9001:2008 certified Company- At Trade Perfections, quality is the result of commitment to hard work and total dedication to deliver the best.
- World class precision testing laboratory for testing of transformers.

Highly qualified team of professional – CEO of the Company is Mr G.S.Rathore, who was formerly Head of one of the B.K. Birla Group of Companies, M/S ECE Industries Ltd Sonipat engaged in the manufacturing of Power & Distribution transformers of 220 KV class. Trade Perfections has also hired services of Mr. Alok Pant formerly GM Marketing of ECE Industries Ltd Sonipat, as Head Of Marketing.
Efficient designing to meet the stringent quality requirement of the customers.

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History:

Trade Perfections was established in the year 2003 and started its commercial business activities in the year 2004.

As part of our quality conscious nature we successfully got ISO 9001:2008 certification in the year 2009.

The Company started with manufacturing of Copper & Aluminum strips & round wires supplying to various companies in India and abroad. The company then diversified and started supplying C.R.G.O. (Electrical Lamination) to companies in India.

In the year 2008, the management took the decision to diversify the operations further to manufacture different type & rating of Power Transformers. Within record time of 7 months the company established the facilities at NSEZ, Noida for manufacturing of Power Transformers upto 40MVA -132 KV class.

With the strong team of experienced and qualified professionals the company successfully cleared quality tests of Central Power Research Institute of India (CPRI) (NABL accredited Test Laboratory), cleared crucial “Impulse Test” from National Test House (NTH), Government of India Laboratory of Power Transformers .

With an in-house state-of-the-art testing lab our 40/50 MVA – 132 KV class Transformer manufactured for repute big industrial house cleared all tests successfully.

In 2009, the Company was successful in increasing the size of it’s order book by getting order of 4(four) 6 MVA Generation Transformer from a repute Business House of India after a stiff competition from both domestic and international players & other regular Power Transformers from Govt. State Electricity Boards & utilities.

Infrastructure:

Trade Perfections has a large production unit in a well facilitated Special Economic Zone-Noida.

- A 170 feet long and 45 feet wide dust proof fully equipped shed of manufacturing 11KV to 132 KV class transformer upto 40 MVA.
- Separate dust proof Insulation Department Bay.
- . A dust proof winding shed along with latest modern winding machines & equipments.
- A highly equipped test laboratory to carry out all type of test required as per IS and international standards.
- . A state of the art high vacuum bake.

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Team Efforts:

Founded with a vision by Mr. Rajesh Aggarwal and under the guidance of Mr. G.S.Rathore, Trade Perfections will flourish because of its proven team. The company is proud to have the most efficient and trade oriented leadership blessed with highly technical knowledge along with years of relevant experience. Reputed & renowned personnel of marketing, services, quality and management are strong members of the team. The team has a motto of customer satisfaction by quality products, timely delivery and services.

Manufacturing Process:

Trade perfections is a manufacturer of wide range of power and distribution transformers ranging from 5 KVA to 40 MVA with a voltage class 11KV to 132 KV in confirmation to the IS, ANSI, BS, IEC and other international standards.

Transformer Core Laminations –

The core is procured from M/s B.R. Industries Ltd., Delhi, which is industrial pioneer for transformer cores. They import the raw material Prime Cold Rolled Grain Oriented Electrical Steel from A.K. Steel (U.S.A), Nippon Steel Co. & JFE Corporation (Japan), and Thyssenkrupp (Europe) and other Steel mills across the globe. The following grade of the CRGO is readily available with the company.

- American M-2, M-3, M-4, M-5, M-6, H-0 DR, H-1 DR.
- Japanese M-3, M-4, M-5, M-6, HI-B, ZH, MOH, ZDKH, ZDMH.
- European M-3, M-4, M-5, M-6 and HI-B Grades.

The cores are assembled on core platforms. These assembled cores are carefully lifted to vertical position for tapping and clamping in respect to reduce vibration noise. Then a coat of oil and heat resistant varnish is applied on the both side's edges. The core legs are strapped with heavy duty insulated tapes and yokes are firmly tightened with heavy duty folded steel channels. A proper coat of zinc chromate paint is applied on these channels. As per design, a tie rod/ fish plate is used which help transferring the load from bottom to the top clamps and secure the windings.

Windings –

Winding of coils are designed to meet three basic requirements i.e. electrical, thermal and mechanical. The coils can be manufactured in cylindrical or oval shape as per specifications. The HV & LV coils are wound on manual / semi automatic machines in a dust proof environment. To ensure the low temperature gradient between windings, interlayer ducts are provided for the smooth flow of oil in order to minimize the hot spot temperature.

The coils consist of any one of the following types:

a) Spiral or Helical Coil

This type of coil is made up of a single conductor or a number of conductors in parallel usually wound in an insulating cylinder with which it is then assembled on the core limb. When parallel conductor are used they are, at intervals, transposed to reduce stray looses.

b) Cross-over Coil

This type of construction is always used for round conductors and consists of a number of layers with a number of turns per layer. The coils are wound in pairs with the cross-over at the inner layer so that both the ends are on the outer side. The required number of such coils is assembled over insulating atrips usually on an insulating cylinder.

c) Continuous Disc Coil

Continuous Disc Coils are used for medium voltage and high voltage winding .Disc Coils are also used for current of approx .25 amps and above for both inner and outer windings where the number of turns preclude the use of Spiral and Helical type of winding. This winding comprises one or multiple conductors wound continuously into a series of discs over axial spacers, with locked radial spacers between discs to provide cooling ducts. By winding alternate discs outwards from the winding cylinder and inwards towards the cylinder, radial connection from back to front across the face of the discs are avoided, and the complete winding is made without joints. It can be seen that the places along the coil, the turns are spaced much more widely than elsewhere. This is an important feature in connection with mechanical force produced under short circuit. This particular place normally given in L.V. winding, under assembled condition is just opposite the place where H.V. tapping turns are located. This feature ensures that the magnetic symmetry between H.V. and L.V. windings under all tapping condition is much better than would be the case if spacing of the turns in the L.V. winding were uniform throughout and hence the short circuit forces are reduced. All insulation are shrunk during manufacture, so virtually precluding any shrinkage in service which might result in loosening and movement of the winding under short circuit. The winding is provided with liberal cooling ducts to ensure that the winding is properly cooled by the cooling medium i.e. oil for ONAN cooled transformer or Polychlorinated diphenyls for ONAF cooled transformer. The winding employing two or more conductors in parallel have the individual conductor transposed at frequent intervals to minimize eddy currents and thus equalize current distribution and temperature. Joints are avoided as far as possible, but where necessary they are made by brazing.

The end turns of high voltages coils are suitably reinforces when service conditions require it. Usually the L.V. coils are assembled nearest the core with the H.V. coils concentrically round them over strips of insulating material to provide an ample cooling duct.

The L.V. windings and the H.V. windings including the tapping arrangement are designed to maintain as far as possible electro- magnetic balance between them and achieve the short circuit strength desired according to the relevant standard specifications.

Sufficient ducts are provided between the windings and in the windings themselves where necessary to attain free circulation of oil in order to restrict the temperature of the coils to the designed limits. The individual coils are thoroughly dried in a heating chamber with hot air circulation at a temperature of 80°C to 90°C.

Core Coil Assembly –

The folded channels of top yoke are carefully removed along with yoke. With the proper care LV & HV windings are inserted on each limb, taking care of hi-low gap. Then the top yoke is reinserted and folded clamps are properly tightened.

The core and coil assembly is again thoroughly dried, usually under vacuum, then immediately put into the transformer tank and the tank is filled with dry oil. In large transformers the core and coil assembly is put into the transformer tank and the tank is filled with dry oil.

In large transformers the core and oil assembly is put into the transformer tank and the complete unit is put into a vacuum chamber for the drying and oil filling process.

The coils are rigidly clamped between the top and bottom channel frames by means of insulating blocks and locked in position whilst the core and coil assembly is in the hot condition.

In large transformers clamping rings and insulating collars are provided and the coil clamping devices are adjusted and locked in position when the transformer is still hot. The tapping leads are provided with extra insulation and rigidly supported.

Winding Connections –

Proper winding connections are made as per design of the transformer ensuring the right clearances using high quality silver brazing rods/ high pressure thimble clamping.

Baking of Core Coil Assembly –

The active part (Core coil Assembly) is carefully shifted in the baking oven. The temperature is monitored/ controlled during the baking process. After getting the right value the active part is removed from the oven for tanking.

Tanking –

The steel tank is made ready for putting the active part with the help of the EOT crane. The clearances are monitored as per design. The cover along with the conservator is tightened and other accessories. Standard fittings provided in accordance with IS, ANSI, BS, IEC and other international standards.

- Drain valve with plug.
- Filter valve with plug.
- Silica Gel Breather.
- Thermometer pocket.
- Lifting arrangement.
- Rating and Diagram plates.
- Oil level gauge.
- Air release arrangement, when conservators are fitted.
- Conservators in 50 KVA and above.
- Platform mounting arrangement.

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The following additional fittings can also be supplied where possible and according to Buyers' requirements.

- Explosion vent with /without equalizer pipe.
- Mercury or alcohol thermometer.
- Dial type thermometer.
- Extra filter valves.
- Buchholz Relay.
- Magnetic type oil gauge.
- Winding Temperature Indicator for local indication.
- Arcing horns (single or double gap).
- Terminal box for auxiliary electrical circuits.

Inhouse Testing –

By using state of the art testing equipment a qualified engineer carry out the all necessary tests required. Prior to dispatch each transformer is tested for all routine tests laid down IS, ANSI, BS, IEC and other international standards.

The following tests are carried out:

- Ratio Test at all taps.
- No load Loss Test at rated voltage and frequency.
- Short Circuit Test at rated current, rated frequency, impedance volts.
- Induced Potential Test.
- Insulation Resistance by megger.

If required and agreed upon the following Type Tests and Supplementary Tests can also be carried out.

- Temperature Rise Test.
- Zero phase Sequence Impedance Test
- Test Certificates are furnished for each Transformer.

After passing the rigorous testing by our engineers the job is ready for the customer inspection and dispatch.

Contact Us

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