

# **HAN CHANG**

## **TRANSFORMER**

## INTRODUCTION

HAN CHANG TRANSFORMER CO.,LTD. is one of the leading companies in South Korea, has been manufacturing a full range of transformers such as Distribution Substation Transformers, Power Substation Transformers and Padmount Transformers.



## PRODUCT SCOPE

- 10~5000KVA Distribution Transformer
- 75~5000KVA Pad mounted Transformer (Dead front radial, Live front radial and Dead front loop feed type)
- 5~100MVA Power Substation Transformer
- Offshore & Onshore Wind Farm Transformer (Environmentally friendly slim)
- Max. High voltage ratings – 154 KV / 650 BIL
- De-energized tap changers, On-Load tap changers (IEC OLTC and ANSI Reactor & Serial coil type LTC) and Forced air cooling systems
- NEMA, ANSI, IEC, BS, AS, KS Standards
- Inventory sales, Modification available for standard specificatio

## COMPANY HISTORY

- |          |   |          |  |
|----------|---|----------|--|
| 1972. 11 | Establishment of HAN CHANG ELECTRICITY.   | 2001. 07 | Selected as One of Fifty Highest Quality companies in Korea.<br>(By Korea Ministry of Commerce, Industry and Energy) |
| 1988. 05 | Factory relocation to GUEMSA Industrial complex.  | 2002. 12 | Certification of Korea Good Technology.  |
| 1992. 11 | Company name change to HAN CHANG TRANS CO., LTD.  | 2004. 10 | Awarded 1st prize in the national competitive quality contest.   |
| 1997. 02 | Implementation of forward vision 21.  | 2005. 04 | Factory expansion and installation of Automatic Corrugated Finwall Line (from GEORG).                                |
| 1999. 06 | Selected of Global Venture company of Korea.  | 2005. 06 | Installation Automatic Tank Welding Robot Line (from ABB).   |
| 2000. 12 | Factory expansion and relocation to NOKSAN Industrial complex.  | 2008. 12 | Accomplished the expert amount of over \$10 million in 2008  |
| 2001. 03 | Technical strategic allince with HITACHI Industries in Japan. (Export Double Width-Core & Coil active part) | 2008. 12 | Accomplished annual sales of \$20 million in 2008  |

## PADMOUNT TRANSFORMER



HAN CHANG Padmount Transformers are an oil filled, three phase, specifically designed for servicing such as underground distribution loads for shopping centers, schools, institutions and industrial plants. It is available in both live front and dead front construction, for radial or loop feed applications, with or without fusing or switching.

## DISTRIBUTION SUBSTATION TRANSFORMER



HAN CHANG Distribution Substation Transformers are designed, manufactured and tested accordance with IEC 76 and its equivalent standards. Standard type transformers are well suited for serving both industrial and commercial applications : the small, compact design saves valuable space and the lighter weight makes handling and installation easier and cost competitive. Along with the standard types, a variety of options are available to meet the customer's specific requirements.

## POWER SUBSTATION TRANSFORMER



HAN CHANG Power Substation Transformers, designed and built to meet the highest engineering standard, have shown outstanding performance and reliability over the years especially in the most challenging applications in utility, industrial, and commercial areas.

HAN CHANG's major competitive advantages are driven by its well-trained engineers, winders, assemblers, and testers with many years of experience in the development, design, and manufacture of medium and large power transformers.

## DESIGN AND MANUFACTURING PROCESSES OF TRANSFORMERS



### DESIGN

Our experienced designers employ the latest available computerbased design tools, such as 3D computer-aided design systems for both internal and external layouts. Designers can check test result such as short circuit, impulse before actual inspection on transformers



### WINDING MACHINE

Winding by Vertical and Horizontal winding machine



### CORE CUTTING & STACKING

Core laminations are carefully stacked on precision hydraulic lift tables to prevent misalignment when up-righting.



### WINDING & INSULATION

Winding includes HV winding & LV winding. Windings are cylindrical construction, with concentric windings separated by axial oil ducts.



### CORE CUTTING

Core laminations are precisely cut to length and mitered on a computer controlled cutting line

## DESIGN AND MANUFACTURING PROCESSES OF CORRUGATED FINWALL



### PREPARING STEEL PLATE

Installation suitable mold after prepared steel plate.



### PROGRAMING & MOLDING

Molding is started after programming on detail size & information.



### WELDING BY ROBOT

Robot weld the corrugated fin and rod is welded to corrugated fin after Molding.



### FINISHED PRODUCT

Finished product is inspected by leak tester and treated by rust protection chemicals.



### CORE & COIL ASSEMBLY

Sized Coils & Core are assembled together in a heavy-duty clamping structure that produces a rugged, stable assembly, yet mini-mizes mechanical stress in the core.



### FACTORY TESTING

In addition to numerous quality inspections throughout the manufacturing process, final tests are conducted on the completed transformer to ensure proper function of all systems.



### VACUUM DRYING

Core and Coils are dried and oil impregnated in Vacuum Drying chamber.



### FINISHED PRODUCT

Finished Product after final assembly & fill up the Oil,



### PAINTING

Painting to prevent rust corrosion of product to keep beautiful appearance always



### FINAL ASSEMBLY

Active Part (Core & Coils) insert to the tank and assembled all of accessory & radiator to the tank.





## ACCESSORIES



LV BUSHING



NON LOAD  
TAP CHANGER



LIQUID LEVEL  
GAUGE



OIL TEMPERATURE  
GAUGE



WINDING  
TEMPERATURE GAUGE



HV BUSHING



ON LOAD  
TAP CHANGER



BUCHHOLTZ RELAY



N2 GAS  
EQUIPMENT



PRESSURE  
RELIEF DEVICE



## TRANSFORMERS INSPECTION EQUIPMENT

IMPULSE TESTER



OSILLOSCOPE



LOSS TEST SET



PD TEST



INDUCTIVE TEST SET



LEAK TEST



RATIO TEST



DIELECTRIC TEST SET



POWER FACTOR TEST

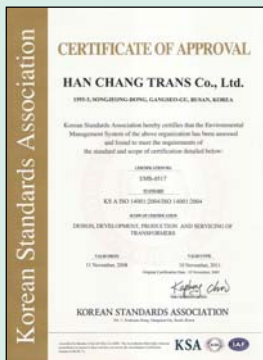


MICRO OHM METER

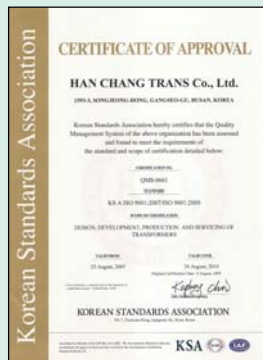


# HAN CHANG

## CERTIFICATE



KSA ISO 14001  
Environmental  
Management system



KSA ISO 9001  
Quality Management system



UL  
(Underwriters Laboratories)  
Korea



CE  
(Comunaute Europeenne)

<http://www.hctr.co.kr>



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