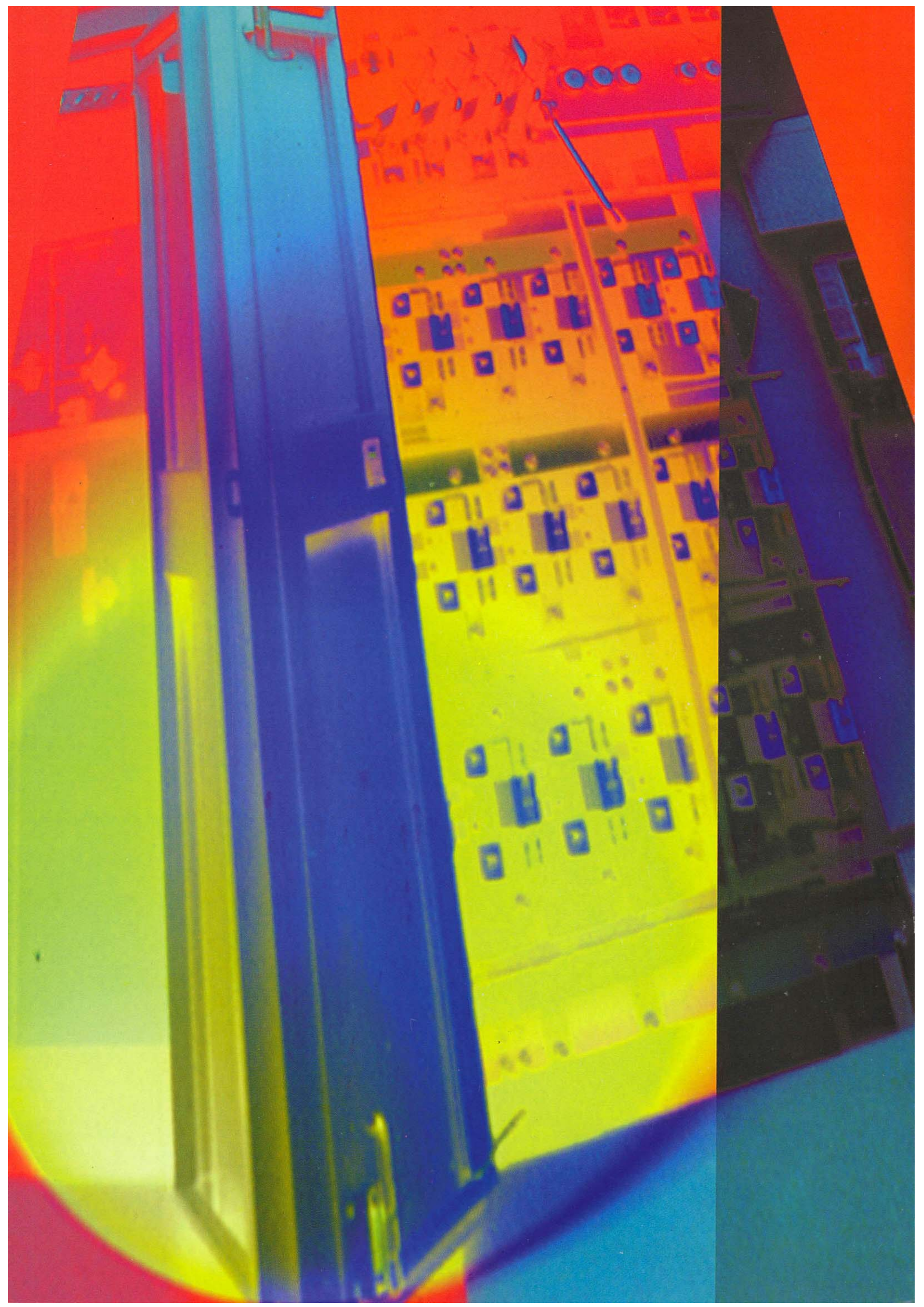


FAST SOLUTION IN SUBSTATION

- GRC Prefabricated Compact Substation
- GRC Shelter





New Approach

A new approach to the manufacture of MV/LV substations involves prefabricating them in factory with the aim of improving their reliability, security, quality, and costs, and optimising their integration into their surroundings. They are intended for the supply and distribution of electricity, for use by industrial companies, energy distributors, and private users.



Cafe Batavia, Jakarta

Advantages of Prefabrication Solution

- Small area needed
- Already assembled and tested at factory
- Only one contract needed for whole substation.
- Delivery time very fast

GRC Prefabricated Compact Substation

GRC (Glassfiber Reinforced Cement) is a generic term for a composite material consisting of hydraulic cement and fine aggregate mortar reinforced with alkali resistant glassfiber

Advantages of GRC Compact Substation

- Better internal arc withstand capability
- Corrosion resistant
- Maintenance free
- Fire resistant
- Good integration to the environment
- High mechanical strength
- Insensitive to variation in temperature
- Weather proof
- Extended product live
- Undeniable sound properties
- High resistant to chemical agents

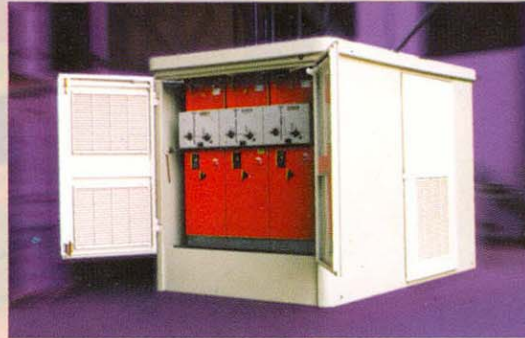
Description of the Product



Transformer side - IND 1000

Range of Product:

- IND 1000 : Single Deck up to 1000 kVA
- IND 630 DD : Double Deck up to 630 kVA
- IND 800 : Single Deck, with GIS Cubicle up to 800 kVA
- GRC Shelter : Multi Purpose Shelter



Ring Main Unit side - IND 1000

Enclosure

- Walls, Roof and separations are made of GRC thickness 45 mm.
- Floor is made of GRC thickness 120 mm.
- Door and Ventillation are made of aluminium thickness 2.5 mm.
- Roof load 2500 N/m²

Medium Voltage

RMU type, With SF₆ MV Switchgear consists of :

- Incoming, type : IS/C10
 - Outgoing, tipe : IS/C10
 - Transformer Protection, type : PFA/C12
- GIS type for IND 800

Transformer

- Oil immersed type
- Hermetically sealed
- Cooling ONAN
- Outdoor
- Plug-in bushing on MV side
- Poly Chlorinated Biphenyl (PCB) compounds free



LV side - IND 1000

Low Voltage Panel

- Customer request
- Maximum dimension (IND 1000):
 - height : 1450 mm
 - depth : 400 mm
 - width : 1400 mm

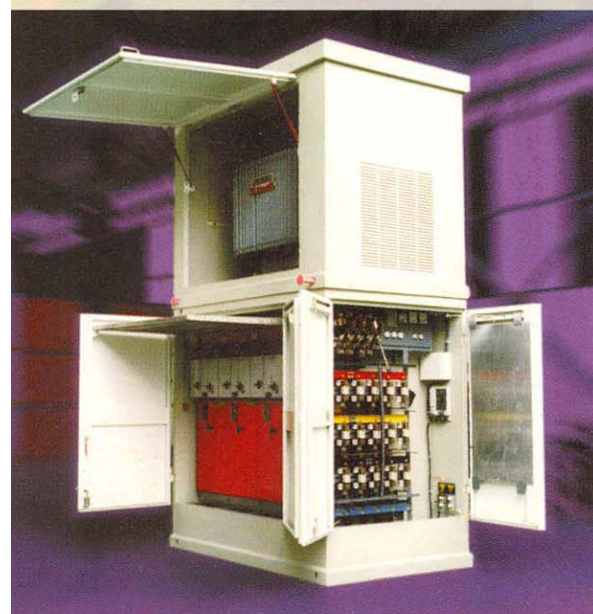
Cable Connection

- Connected properly between MV, Transformer and LV

Options

- Transformer with DGPT 2 Protection Relay
- Transformer with Pressure Relief Device
- Ground Fault Detector
- Oil leakage tank attached to the transformer

IND 630 DD

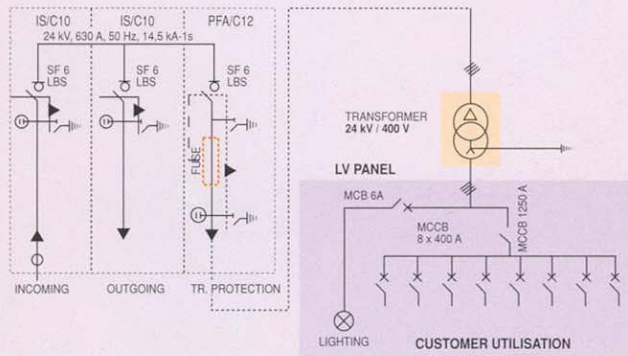




Characteristic

General

- Ambient temperature : Normal condition -25 C - + 40 C
- Class of enclosure : 10
- Degree of Protection (IP) : 359
- Cooling system : Natural
- Operation type : Outside
- Compartmented : Yes
- Standard : IEC 1330

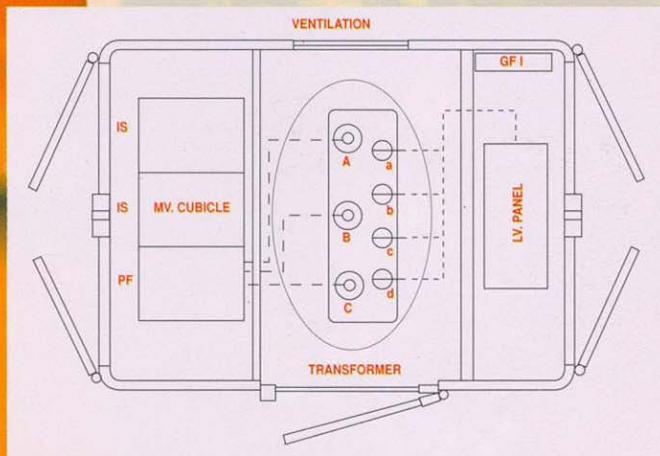


Substation

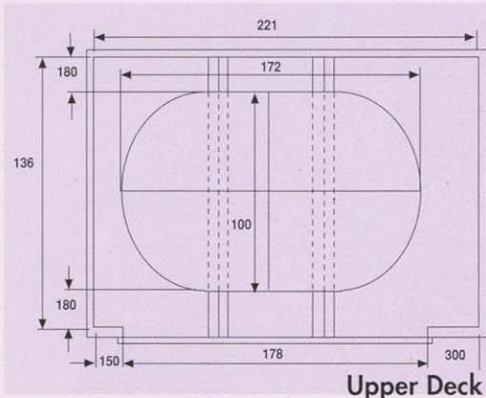
- Rated Voltage : 24 kV/400 V
- Nominal Voltage : 20 kV/380 V
- Rated Frequency : 50 Hz
- Phase Rotation : RST
- Power Capacity :
 - IND 800 : Up to 800 kVA
 - IND 1000 : Up to 1000 kVA
 - IND 630 DD : Up to 630 kVA

Ring Main Unit

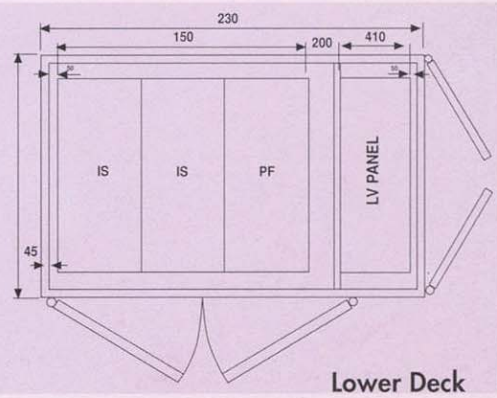
- Rated Voltage : 24 kV
- Rated Current : 630 A
- Rated Power Frequency Withstand Voltage (50 Hz- 1 minute) : 50 kV
- Rated Impulse Withstand Voltage (1.2/50 μs) : 125 kV
- Short Time Current 1 sec : 14,5 kA
- Peak Withstand Current : 36,25 kA



IND 1000 Type



Upper Deck



Lower Deck

Other Purposes

Telecommunication Shelter

We offer GRC Shelters to house repeater, BTS equipment and even gensets to support your telecommunication business in fast solution

Transport, Unloading and Installation

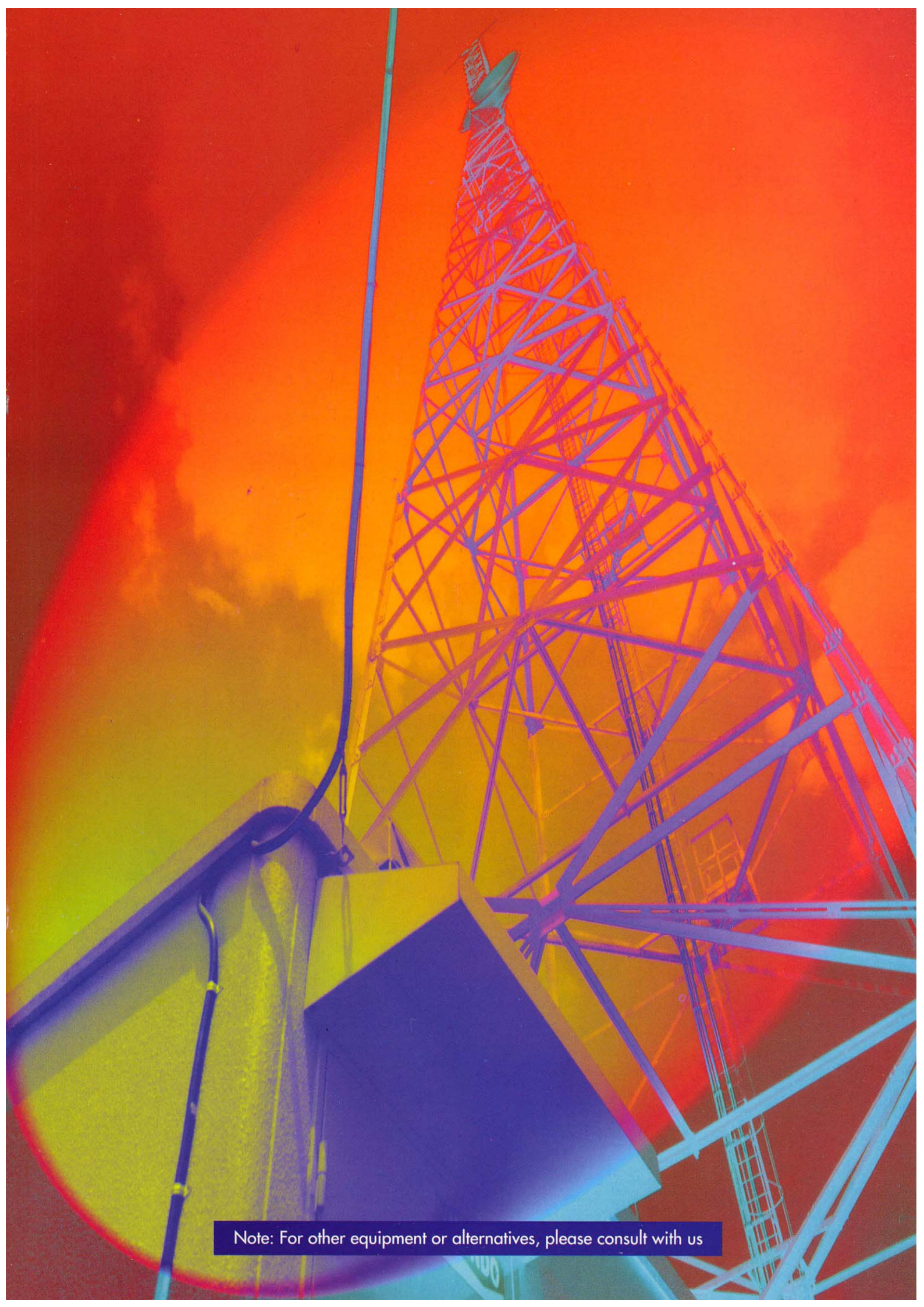
Transport will be carried out by the manufacturer who will also :

- In the event of any uncertainty as to the conditions of access and installation on site, arrange for a reconnaissance of the site and of the method of placing the substation.
- Provide help for the unloading and positioning of the substation.



Dimension

	Lenght (mm)	Width (mm)	Height (mm)	Weight Empty (kg)
IND 800				
Interior	2774	1810	1800	
Exterior	2960	1976	2000	4000
IND 1000				
Interior	3030	1920	2030	
Exterior	3170	2010	2250	4000
IND 630 DD				
Interior	2210	1360	3660	
Exterior	2350	1500	4050	5000
SHELTER				
Interior	2994	1920	2600	
Exterior	3270	2110	2820	5245



Note: For other equipment or alternatives, please consult with us