



PREFABRICATED SUBSTATIONS AND E-HOUSES

TGOOD

Energy, Fast!

tgood.com

Global leader in prefabricated substations and E-House systems

PRODUCT OVERVIEW

- Fully integrated prefabricated substations and E-House systems.
- Best-in-class lead times measured in weeks, not months.
- Flexible designs can be skid or trailer mounted for rapid transport.
- Exceptional weatherproofing with strong condensation and corrosion resistance.
- High voltage gas insulated switchgear up to 145 kV available.
- Substation expansions and retrofits expand capacity within existing footprint in crowded cities and congested industrial zones.
- Standard designs comply with best international building codes; compliance with specific regional codes available.



Stainless Steel E-House Ideal for Corrosive Environments

KEY BENEFITS

SPEED

- › Many substation solutions ready to depart factory in as little as six weeks.
- › Rigorous factory testing reduces commissioning times by an average of 50%.
- › For many applications, designs not requiring cast-in-place concrete are available.

VALUE-FOR-MONEY

- › Extraordinary high quality and reliable components manufactured in ISO 9001 certified facilities.
- › Compact substation modules reduce shipping and transportation costs.
- › Over 5000 switchgear units produced annually delivers significant economies of scale for lower costs.

QUALITY

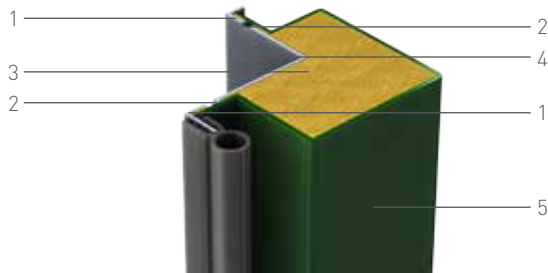
- › Innovative designs protected by over 100 patents on E-House and substation products and production processes.
- › Optional five-year warranty.

SERVICE

- › Complete engineering, procurement and construction (EPC) services available.
- › Electrical components pre-commissioned before leaving factory.
- › Custom layouts to meet customer specifications and requirements.

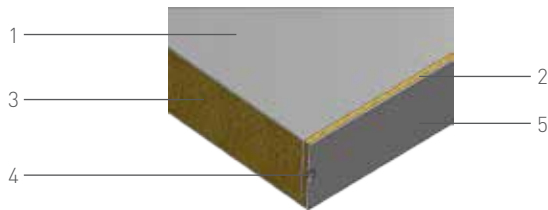
TYPICAL SPECIFICATIONS

- > Protection Level IP54 Min.
- > Impact Resistance 20 J Min.
- > Standard 3° Sloped Roof 2500 N/m² Load Min.
- > Thermal Conductivity 0.025 W/m • ° C Min.
- > Anti-Corrosion Zinc Protection 30 Yrs. (Stainless Steel Optional)
- > Sound Barrier Technology 40 dB Min. (Optional)



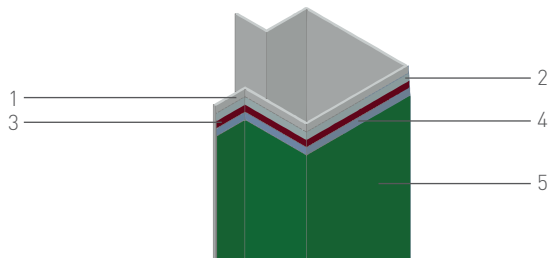
INSULATION DETAIL: CORNER COLUMN

1. Thermal Barrier
2. Spot Weld
3. Injected Foam Insulation
4. Internal Metal Surface
5. External Metal Surface



INSULATION DETAIL: PANEL

1. Internal Metal Skin
2. Thermal Barrier
3. Injected Foam Insulation
4. Spot Weld
5. External Metal Skin



LAYERED ANTI-CORROSION TECHNOLOGY

1. Sandblasted Steel Frame
2. Thermal Zinc Layer
3. Zinc + Paint Pulp Layer
4. Epoxy Coating
5. Hammertone Finish



WATER-SHEDDING ROOF

1. Water Shedding, 3° Slanted Roof
2. Injected Foam Insulation
3. Lifting Rings
4. Steel Frame



E-House with Panels Installed



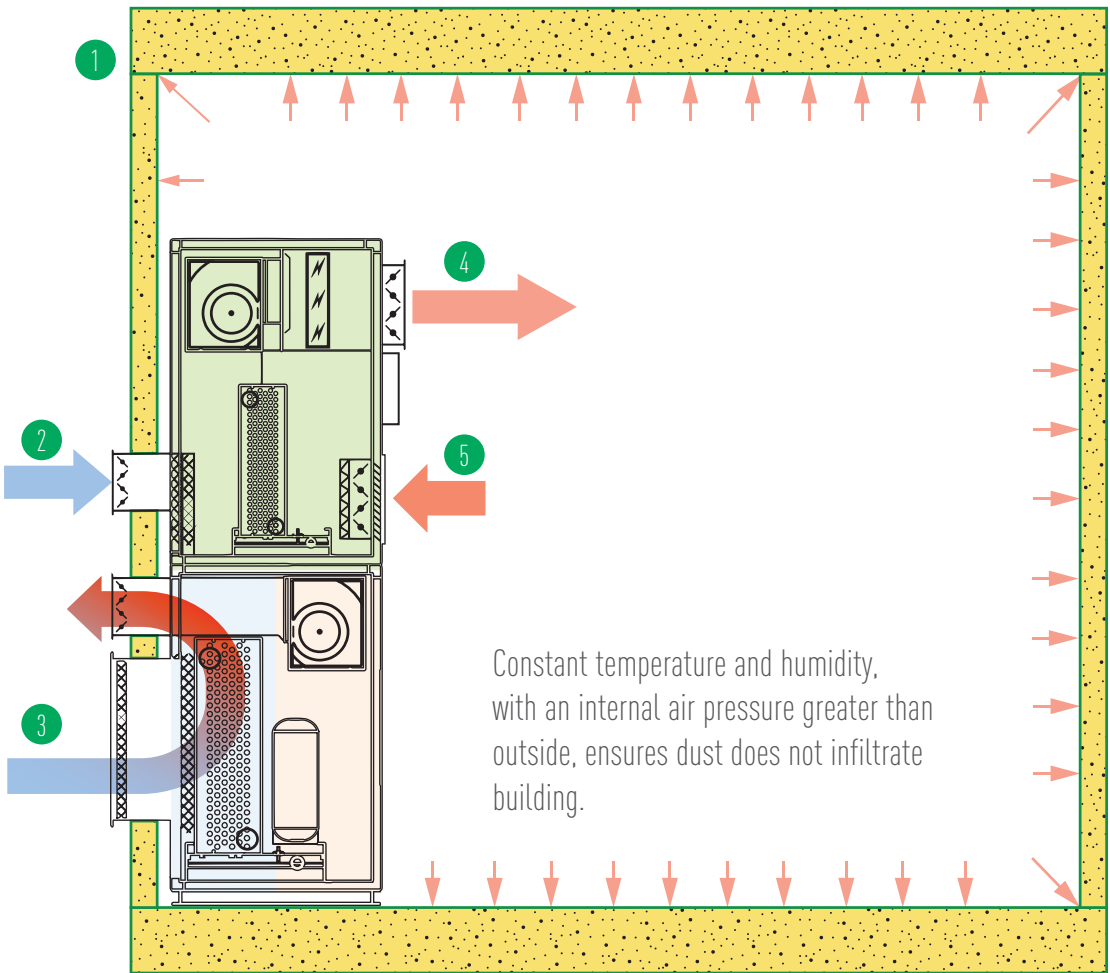


Compact Prefabricated Substation



Hybrid Gas Insulated Switchgear (HGIS)

- Pressurization - 20 Pa Max. (Optional)
- Fire Rating - 2 hr. (Optional)
- GIS, Metal-Clad and Metal-Enclosed Switchgear up to 145 kV, 4000A
- Dry Type Transformers up to 4 MVA Enclosed within E-House
- Oil Filled Transformers up to 32 MVA Enclosed within E-House
- Oil Filled Transformers up to 70 MVA External to E-House
- Motor Control Centers (MCCs) and Variable Frequency Drives (VFDs)
- UPS & Battery Backup Systems
- SCADA, PLC, RTU, DCS
- Customer Supplied Equipment Integration and Installation



1. Foam-Insulated Panels (with Bridge-Cutoff Insulation Technology)
2. Make-up air from outside
3. Heat pump exhaust, shown cooling building
4. Return air (inside air combined with make-up air to maintain positive-pressure environment)
5. Inside air

Positive Pressure Environmental Control System



Air Conditioning Unit



Condensation and Temperature Sensors



Environmental Control System



Ceiling Lighting and Sound Deadening Panels

ANCILLARY EQUIPMENT

- > Heating, Ventilation and Air Conditioning (HVAC)
- > Environmental Temperature and Moisture Control
- > Fire Alarm
- > Fire Suppression
- > Inside Overhead Lighting
- > Emergency Lighting
- > Outside Lighting



145kV Compact GIS Substation



Medium Voltage Prefabricated Substation



Arc Flash Vents

Lifting Hooks

Windproof Door Mechanism

- > Fixed Mount, Trailer Mount or Heavy Duty Mobile Skid Base
- > Arc Flash Venting
- > Stairs, Landings and Walkways
- > Rear Entry Equipment Doors
- > Windproof Door Mechanisms
- > Interconnecting Cabling and Cable Trays
- > Straight-Through Cable Entry or Cable Coupling Systems
- > First Aid Equipment
- > Custom Paint and Graphics

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