

■ 1.1. CONFIRMITY of IEC EN 61439 - 1&2 STANDARD

- The PDS switchboards have undergone the type tests IEC 61439-1&2 Standard at the international accredited type test laboratories such as Dekra , LVT and extc.
- The results of these tests guarantee the performances of the PDS switchboards and allow the end constructor of the switchboard using TEKPAN-PDS System.
- Metal structures, air, moulded-case and miniature circuit-breakers, not to carry out further type tests, respecting the selection criteria and the assembly instructions of the various components. These results, given below, can be referred to for drawing up the declaration of conformity of the electric switchboard.
- In the tables following, the thermal dissipation values are indicated, referring to all the dimensions of the PDS switchboards and to the type of installation, deriving from the type tests carried out. The dissipated power data (in Watts) are according to the admissible overtemperature inside the switchboard in the upper part, and must be compared with the sum of the powers dissipated by all the components installed inside the switchboard (taking appropriately into account the factor of contemporaneity).

■ SHORT-CIRCUIT WITHSTAND CURRENT - UP TO 4000A SYSTEM

- Rated short-time short-circuit current (I_{cw}) : **Up to 85kA (1s) , 65kA (3s)**
- Rated max. peak short-circuit current (I_{pk}) : **Up to 176kA**
- Rated short-time short-circuit current (I_{cw}) in withdrawble module : **Up to 60kA (1s) , Peak(I_{pk}) : 132kA**

■ DIELECTRIC PROPERTIES - UP TO 4000A SYSEEM

- Rated service voltage (U_e) : **Up to 690V AC**
- Rated insulation voltage (U_i) : **Up to 1000V AC , Up to 800V AC in withdrawable module**
- Rated impulse withstand voltage(U_{imp}) : **Up to 12kV , Up to 8kV in withdrawable module**
- The insulation distances are guaranteed by following the PDS metalwork structure instructions and circuit-breaker assembly and mounting instructions of manufacturers.

■ EFFICIENCY OF THE PROTECTION CIRCUIT

- Following the assembly indications of the metal components, the effective electrical continuity between the exposed conductive parts is verified, with negligible resistance values.
- Protection circuit short-circuit withstand current : phase-earthing busbar : **I_{cw} :60kA (1s) , I_{pk}:132kA**

GENERAL MECHANICAL and ELECTRICAL CHARACTERISTICS

■ MECHANICAL OPERATION

- Mechanical operation is verified by following the assembly and mounting instructions for the PDS metalwork structures and instructions for the circuit-breaker manufacturers.

■ DEGREE OF PROTECTION(IP) ACCORDING TO IEC EN 60529 / MECHANICAL IMPACT (IK)

- Modules with ventilated door and rear panels in Internal Front protection : **Up to IP53 , IK10 / IK08 (Glazed Doors)**
- Modules with ventilated door and rear panels in External Front protection : **Up to IP53 , IK10**
- Modules with ventilated door and rear panels in Withdrawable Module : **Up to IP40 , IK10**
- Modules with ventilated rear panels in Internal Front protection without door : **Up to IP30 , IK08**

■ MECHANICAL CHARACTERISTICS

MATERIALS :

SHEET PARTS :

- Sheet steel Parts : 6112 grade EN 10130-99 DC01
- Galvanized steel Parts : 1311 grade DIN EN 10142-00 DX51 D+Z
- Frame : 1,50mm galvanized steel + RAL 7035 flat powder coated
- Full front doors : 2,00mm sheet steel + RAL 7035 ragged powder coated
- External Partial doors , Rear Panels : 1,50mm sheet steel + RAL 7035 ragged powder coated
- Top panels and Side panels : 1,50mm sheet steel + RAL 7035 ragged powder coated
- Internal Covers : 1,20mm sheet steel + RAL 7035 flat powder coated
- Base-Plinth Parts : 1,50-2,00-3,00mm Galvanized steel + RAL 7012 ragged Powder Co
- Mounting plates : 2,00mm galvanized steel
- Segregation plates : 1,50mm galvanized steel
- Assembly& Support Rails : 2,00 - 3,00mm sheet steel + zinc coated Cr+3 passivated

PLASTIC PARTS :

- Busbar holders : PolyamidPA (6.6) reinforced with fiberglass , V0 UL 94 (-40°C + 130°C)
- Segregation plates : 3mm Polycarbonat sheet , B-S1-d0 according to EN 13501-1
 - Dry Heat Tested according to IEC 60068-2-2 Test Bb
 - Glow Wire Tested according to IEC 60695-2-10/11

DIE CAST PARTS :

- Aluminum Joint Corner : Etial-160 AlSi9cu3 (A-380)
- Fixing parts : Zinc Zamak 5 (ZnAl4Cu1)

FASTENERS :

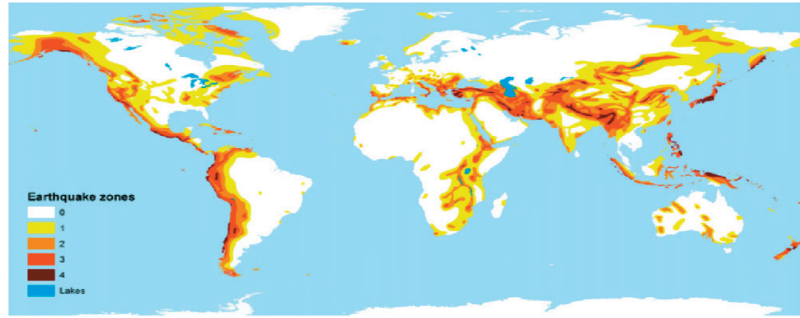
- Screws : 8.8 ISO 898-2
- Nuts : 8 ISO 898-2

GLASS on DOOR

: 4,00mm Tempered Glass (IK08)

■ SIEMIC STRENGTH

Around the world can be found different zones with a specific seismic risk. These zones have been classified according to the Uniform Building Code (UBC).



DEFINATION of IEC 60068-3-3 STANDARDS

IEC 60068-3-3 Ground Acceleration		Siesmic Charactesitics	
References	General Description	Richter Scale Magnitude	UBC Zone
AG2	Intensity from weak to average	< 5.5	ZONE 0
			ZONE 1
AG3	Intensity from average to strong	5.5 to 7.0	ZONE 2 ZONE 3
AG5	Intensity from strong to very strong	> 7.0	ZONE 4

PDS uses TEOS panels as main frame. TEOS Series are within the scope of Zone 3 seismic strength tests. Zone3 (AG3) test was covers all sizes and types of the Teos series.

TEOS ENCLOSURE SIEMIC STRENGTH (According to IEC 60068 3-3)

ZONE 3 All Teos series products are within the scope of Zone 3 seismic strength tests. Zone3 (AG3) test was conducted for double-door enclosures of size 1200 width x 2000+100 height and 600mm depth, and covers all sizes and types of the Teos series. The complete report can be discover on the company website.

ZONE 4 Zone 4 (AG5) seismic strength tests, an enclosure sized 800 width x 2000+100 height x 800 width an extra reinforced interior and welded plinth was used. The abovementioned size and structure are required for needs within the scope of 'Zone 4'. The complete report can be discover on the company website.

■ 1.2. CONFIRMITY of OTHERS STANDARDS

■ MECHANICAL CHARACTERISTICS

SURFACE FINISHING & CORROSION PROTECTION

PAINTING (COATING) PROCESS :

- Sheet washing
- Phosphating with iron salt base
- Drying in tunnel at 100°C
- External and internal painting with electrostatic application of thermosetting powder enamel with epoxy polyester binders. Total thickness: 70/80 micron.
- Polymerisation in oven at 180°C - 200°C

PAINTING (COATING) PERFORMANCE :

- Hardness : 1H - 2H
- DIN 53152 bending elasticity : unaltered on 1/4" spindle
- DIN 53151 reticular adherence : GT O (100%)
- Erichem elasticity: SEN DIN 53156 : > 6mm
- Gardner resistance to impact : 25 Kg. x cm.
- Foggy Salt Test Resistance EN ISO 9227 : Min 350 hours - Max. 400 hours
- Severity Test A according to IEC 61439-1 : Indoor
- Corrosion protection class EN ISO 12944-6 : C3 (Medium)

Corrosion durability time for first major maintenance as to Environments according to EN ISO 12944-6 :

Heated buildings/neutral atmosphere, Rural areas, low pollution : More than 15 years

Urban and industrial atmospheres Moderate sulfur dioxide levels, : 5 to 15 years
Production areas with high humidity

Industrial and coastal Chemical processing plants : 2 to 5 years

■ DECLARATION OF CONFIRMITY

When correctly selected and assembled, as per the indications given in the instruction manual, allow construction of switchgear complying with the IEC 61439-1&2 Standard, on the basis of what is foreseen by the Low Voltage Directive of the European Community Directives.

The above is valid if the switchgear is designed and constructed:

- Selecting and assembling the materials according to performances indicated in the PDS Ordering Guides and Instruction Manuel
- Sizing the conductors according to the prescriptions of the IEC 61439-1&2 Standards
- Carrying out the individual tests foreseen under the IEC 61439-1&2 Standards successfully.