



# **Data Center Brochure**





# **Dowseng<sup>®</sup> Data Center Solutions**











WSE

- The Hot/Cold Aisle approach is considered to be the "norm" for data center designs. Racks are aligned front to front and cold air is delivered using SteelCrete Access Floor System as an underfloor air plenum.
- Underfloor cooling, if designed, installed, and operated correctly, will provide an excellent "base cooling" platform for the data center.

#### **Seismic Rack Chassis**

As heavy racks are not put on the raised access floor systems directly, the loading requirements and the seismic requirements of raised access floor systems are much lower, this will save a lot of money on raised access floor investments.

#### **Overhead Cable Management**

Cables including power/data cables and optical fibers are managed overhead, saving lots of energy because of good ventilation conditions, more significantly, Overhead Cable Management is more flexible and efficient than underfloor cable management.

### **SteelCrete Access Floor for Data Center**



- Access floor panels with factory-bonded HPL finishes have become the standard in Data Center because of its ease of maintenance and its unique ability to dissipate static electricity.
- For strictly static sensitive applications, access floor panels with factory-bonded Vinyl finishes are better choices.



	General Information				Static Loads			Rolling Loads		
	SteelCrete	Top/Bottom	Understructure	System	Concentrated	Ultimate	Uniform	10	10,000	Loads
	Panel	Steel		Weight	Loads	Loads	Loads	Passes	Passes	
	SC800	0.7/0.7mm	Bolted	10lbs/ft <sup>2</sup>	800lbs	2400lbs	300lbs/ft <sup>2</sup>	600lbs	500lbs	150lbs
			Stringer	48kg/m <sup>2</sup>	363kg	1089kg	14.35kPa	272kg	226kg	68kg
	SC1000	0.8/0.8mm	Bolted	10.6lbs/ft <sup>2</sup>	1000lbs	3000lbs	350lbs/ft <sup>2</sup>	800lbs	600lbs	150lbs
			Stringer	51kg/m <sup>2</sup>	454kg	1363kg	16.75kPa	363kg	272kg	68kg
	SC1250	0.8/1.0mm	Bolted	11.2lbs/ft <sup>2</sup>	1250lbs	3750lbs	400lbs/ft <sup>2</sup>	1000lbs	800lbs	150lbs
			Stringer	54kg/m <sup>2</sup>	567kg	1701kg	19.1kPa	454kg	363kg	68kg









#### HPL/Vinyl Finished SteelCrete Panel + Perforated Panel

- + Bolted Stringer System
- Dimension: 600mm x 600mm or 24" x 24".
- SteelCrete panel grades: SC800, SC1000, SC1250.
- Wide range of HPL/Vinyl finishes.

#### **Bolted Stringer System**

- Finished floor heights: 150mm ~ 1200mm.
- PVC taped rectangular stringer provides excellent loading and air-tightness performance.
- SteelCrete Access Floor is Zinc Whisker Free.

### **SteelCrete Access Floor for Data Center**



#### Perforated Panel For SteelCrete Access Floor

Perforated panel is specially constructed to allow for air flow distribution from under the raised access floor. In today's data center design, 45% airflow rate of perforated panel is the minimum requirement.





#### **SteelCrete Perforated Panel Performance Chart**

	General Information				Static Loads			Rolling Loads		Impact
	Perforated Panel	Top Steel	Understructure	System Weight	Concentrated	Ultimate	Uniform	10 Passes	10,000 Passes	Loads
		Oleci	Bolted	6.7lbs/ft <sup>2</sup>	1000lbs	3000lbs	350lbs/ft <sup>2</sup>	Not		150lbs
	PERF1000	2.0mm	Stringer	32kg/m <sup>2</sup>	454kg	1363kg	16.75kPa	Recommended		68kg





#### Bare/HPL/Vinyl Finished Perforated Steel Panel + Bolted Stringer System

- Dimension: 600mm x 600mm or 24" x 24".
- Perforated panel airflow rate 50%.
- Perforated panel grades: PERF1000.
- Wide range of HPL/Vinyl finishes.

#### **Bolted Stringer System**

- Finished floor heights: 150mm ~ 1200mm.
- PVC taped rectangular stringer provides excellent loading and air-tightness performance.
- SteelCrete Access Floor is Zinc Whisker Free.

### **Aesthetical And Functional Finishes**





#### **HPL And Vinyl Finishes**

great freedom of action.

One of the advantages of a raised access floors is that it is fitted dry to overcome any difficulties on the building's floor slab. By offering a wide variety of aesthetical and functional finishes, it is an extremely versatile system which gives the designer





C6061







C6131











Dowseng<sup>®</sup> Dissipative **HPL** Tile

- Thickness: 1.6 mm
- Electrical Resistance:1x10<sup>6</sup> ~ 2x10<sup>10</sup> Ohm







0306-Green

0013-Pewter

HPL2158

9

HPL2069

HPL2208





### LG<sup>®</sup> ESD Control Vinyl Tile

- Thickness: 2.0 mm
- Electrical Resistance: 2.5x10<sup>4</sup> ~ 1x10<sup>6</sup> Ohm





0006-Honey

#### Gerflor<sup>®</sup> MIPOLAM **ESD Control Vinyl Tile**

- Thickness: 2.0 mm
- Electrical Resistance: 1x10<sup>6</sup> ~ 1x10<sup>8</sup> Ohm

### **Seismic Rack Chassis**



- Supporting equipments above the raised floor greatly increases the difficulty of determining a seismic rating for a data center. Moreover, typical equipment racks can reach 2000 lbs (907 kg) in weight capacity, ensuring heavy floor loading requirements needs significant investment and planning.
- Dowseng<sup>®</sup> Solutions: Racks are assembled on seismic rack chassis directly, and the chassis are anchored on the concrete slab, so there is little possibility of overturn or collapse of racks in case









### Dowseng<sup>®</sup> Seismic Rack Chassis

- As heavy racks are not put on the raised access floor systems directly, the loading requirements and the seismic requirements of raised access floor systems are much lower, this will save a lot of money on raised access floor investments.
- Dowseng<sup>®</sup> Seismic Rack Chassis can be customized according to customer requirements.



## **Overhead Cable Management**











Blockage of air due to underfloor cables: When new network or power cables are added under the floor, older unused cables are rarely pulled out to make room. Instead the cables are left undisturbed to minimize risk of downtime. The build-up of cables causes blockages in air flow which contribute to hot spots in the data center.

#### **Overhead Solutions:**

Cables including power/data cables and optical fibers are managed overhead, saving lots of energy because of good ventilation conditions, more significantly, Overhead Cable Management is more flexible and efficient than underfloor cable management.



OWSEN





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