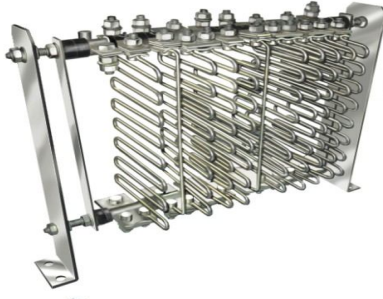


## SLG - 'SURE' MAKE AISI 304 GRADE SS WIRE GRID TYPE LOAD RESISTORS

### FEATURES



- Robust Construction.
- AISI 304 Grade SS Wire
- High power to size ratio.
- Completely Non Inductive

### GENERAL SPECIFICATIONS

| Parameters              | Values  |
|-------------------------|---|
| Tolerances              | ± 10 %  |
| Power Ratings           | 500 Watt to 3 MW  |
| Resistance Series       | Any Customized Values   |
| Resistance Range        | 0E01 to 400E  |
| Resistant Element       | AISI 304 Grade SS   |
| Temperature Range       | -55 <sup>o</sup> C to 200 <sup>o</sup> C for Low Heat Density Type<br>-55 <sup>o</sup> C to 375 <sup>o</sup> C for High Heat Density Type |
| Temperature Coefficient | 100 ppm/ <sup>o</sup> C   |
| Dielectric Strength     | AC; Max. leakage current : 2mA<br>5000VAC (500W and above)  |
| Short Time Overload     | 10 x wattage rating for 5sec  |
| Thermal Shock           | wattage rating 30min., -55 C, 15-30 minutes   |
| Insulation Resistance   | 20Meg ohms Minimum  |
| De-rate to zero         | at 200 <sup>o</sup> C for Low Heat Density Type<br>at 375 <sup>o</sup> C for High Heat Density Type                                       |

### CONSTRUCTION OF RESISTOR

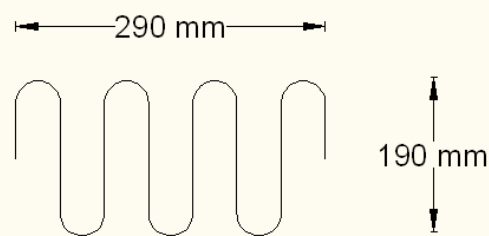
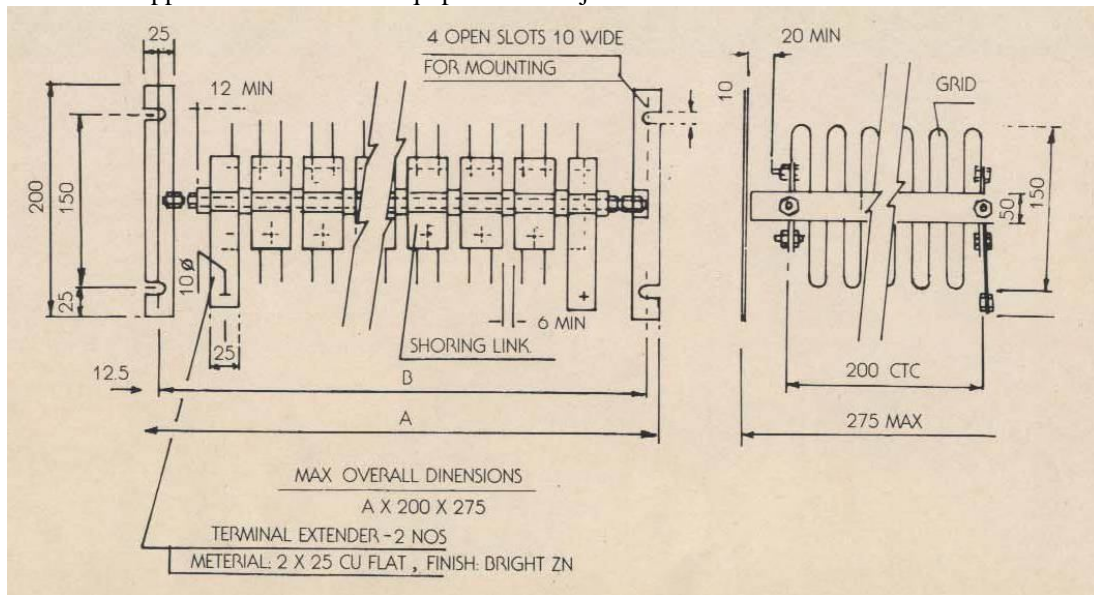


Fig 2 Typical Single grid

The RESISTOR is constructed out of stainless steel grid resistors

Grid Resistors: These are made out of stainless steel wire or suitable diameter bent to form a grid (Figure 2) of standard dimension. The required numbers of grids are put in series to give desired resistance. This assembly is supported through a mica insulated steel rod with Bakelite washers, which separate the grids.

Refer figure 3. This assembly, known as stack, has two steel end frames for mounting it on the panel or steel rod is bolted directly to the two sides of a box. The terminals are brought out suitably for external connection. This entire assembly has the advantage of lightness, compactness and high mechanical strength. The high resilience of the material makes it suitable for applications where the equipment is subject to vibration.



| No of Grid | A (mm) | B (mm) |
|------------|--------|--------|
| 14         | 450    | 530    |
| 18         | 550    | 630    |
| 24         | 650    | 730    |
| 28         | 750    | 830    |

Fig.3 –Stack of Grid Resistors and Dimensions

**ELECTRICAL CHARACTERISTICS**

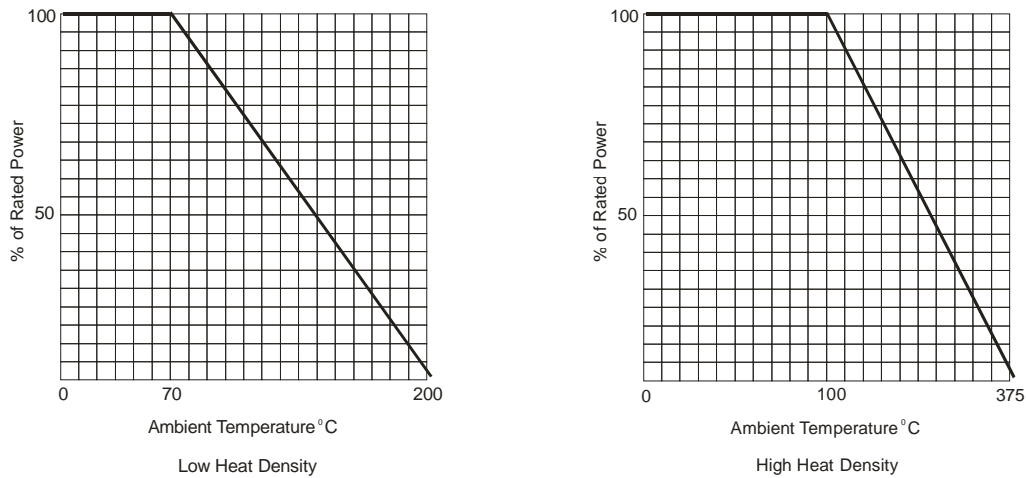
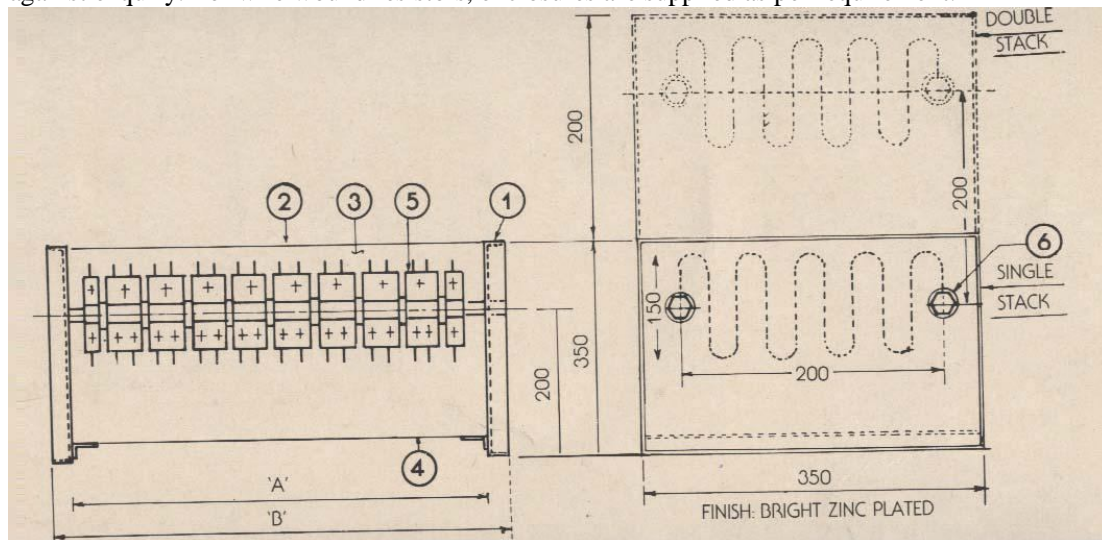


Fig - Maximum dissipation (Pmax) in percentage of rated power as a function of the ambient temperature (Tamb)

| Maximum Current through RESISTOR- $I_p$ (Amps) | Max. Resistance per Grid - ohms |
|--|---------------------------------|
| 121  | 0.027                           |
| 106  | 0.038                           |
| 92   | 0.053                           |
| 80   | 0.075                           |
| 62   | 0.120                           |

### RESISTOR WITH ENCLOSURE

RESISTOR can be supplied loose as described above or in a separate enclosure. There are difference sizes of enclosures depending on the number of grids per stack and number of stacks. These are shown in fig.7 along with dimensions. The normal enclosure protection class id IP21. We can also supply protection class IP31 and IP41. A removable bottom plate also known as gland plate is provided for making holes for fixing glands for cable entry. The recommended cable rating is 25% of the value of  $I_p$ . Bigger size enclosures are offered against enquiry. For wire wound resistors, enclosures are supplied as per requirement.



#### Nomenclature

1. Side panel
2. Perforated Top Cover
3. Perforated side cover
4. Perforated bottom cover
5. Resistance wire grids packet
6. Terminals And Tapping

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### **SURE RESISTORS**

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