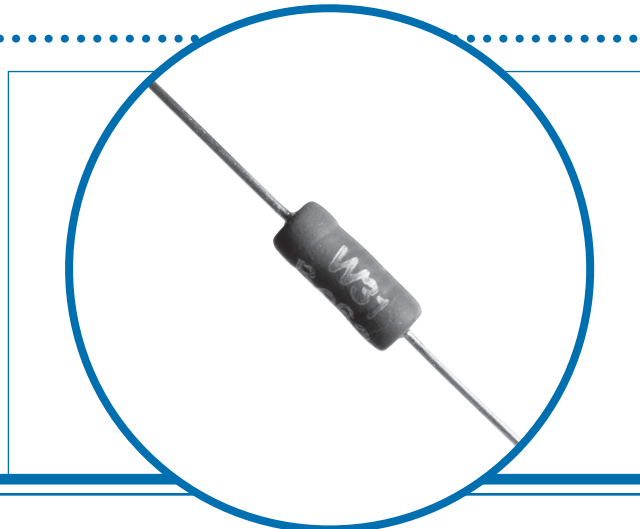


# Cement Coated Wirewound Resistors

## W30 Series

- Values down to 10m ohms
- Tolerance to 1%
- Flameproof protection
- Custom built to meet pulse requirements



## Electrical Data

|                           |         | W31                                                                                    | Notes                         |
|---------------------------|---------|----------------------------------------------------------------------------------------|-------------------------------|
| Power rating at 25°C      | watts   | 3.0                                                                                    |                               |
| Power rating at 70°C      | watts   | 2.5                                                                                    |                               |
| Resistance range          | ohms    | 0R01 to 10K                                                                            |                               |
| TCR (-55 to 155°C)        | ppm/°C  | See below                                                                              |                               |
| Resistance tolerance      | %       | <R10: 5    ≥R10: 1, 2, 5                                                               |                               |
| Standard values           |         | E24 series preferred                                                                   | Other values to special order |
| Thermal impedance         | °C/watt | 83                                                                                     |                               |
| Ambient temperature range | °C      | -55 to 155                                                                             |                               |
| Limiting element voltage  | volts   | 100                                                                                    |                               |
| TCR                       | ppm/°C  | 0.01 ohms <1000<br>0.033 ohms <500<br>0.091 ohms <200<br>10 ohms <150<br>10K ohms <100 |                               |

## Physical Data

| Maximum Dimensions (mm) and Weight (g) |        |        |        |        |         |  |
|----------------------------------------|--------|--------|--------|--------|---------|--|
| Type                                   | L max. | D max. | f min. | d nom. | Wt.nom. |  |
| W31                                    | 13     | 5.6    | 22.75  | 0.8    | 1.0     |  |

### Construction

A high quality ceramic substrate is assembled with interference fit end caps to which are welded the element winding and termination wires. The protection is then applied to the body, providing an effective seal which is impervious to moisture, shock, vibration, fungus and salt spray.

### Terminations

|                      |                                                                       |
|----------------------|-----------------------------------------------------------------------|
| <b>Material</b>      | Solder coated copper.                                                 |
| <b>Strength</b>      | The terminations meet the requirements of IEC 68.2.21.                |
| <b>Solderability</b> | The terminations meet the requirements of IEC 115-1, Clause 4.17.3.2. |

### Marking

W31 resistors are legend marked with type reference, resistance value and tolerance. Values are marked in accordance with IEC 62.

### Solvent Resistance

The body and marking are resistant to all normal industrial cleaning solvents suitable for printed circuits.

### Flammability

The resistor coating will not burn under any condition of applied temperature or component overload.

### General Note

Welwyn Components reserves the right to make changes in product specification without notice or liability. All information is subject to Welwyn's own data and is considered accurate at time of going to print.

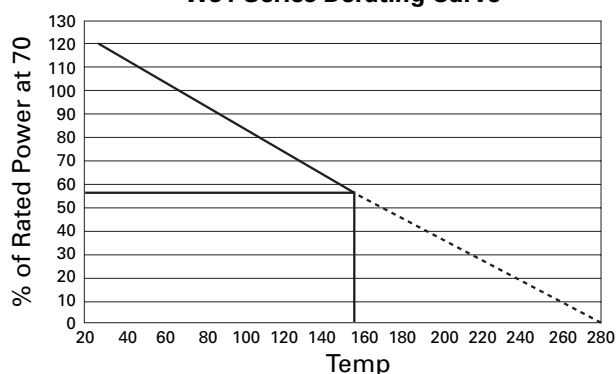
# Cement Coated Wirewound Resistors

W30 Series

## Performance Data

|                                                    |       | Maximum                   | Typical |
|----------------------------------------------------|-------|---------------------------|---------|
| Load: 1000 hrs 3 watts @ 25°C                      | ΔR%   | 5.0 + .001Ω               | 3.5     |
| 1000 hrs 2.5 watts @ 70°C                          | ΔR%   | 5.0 + .001Ω               | 3.5     |
| Dry heat: 1000 hrs at 200°C                        | ΔR%   | 5.0 + .001Ω               | 3.5     |
| Derating from room temperature                     |       | see derating curve        |         |
| Short term overload 10 x rated power for 5 seconds | ΔR%   | 5.0 + .001Ω               | 1.0     |
| Climatic                                           | ΔR%   | 5.0 + .001Ω               | 3.5     |
| Climatic category                                  |       | 55/200/56                 |         |
| Long term damp heat: 56 days                       | ΔR%   | 3.0 + .001Ω               | 1.0     |
| Temperature rapid change                           | ΔR%   | 2.0 + .001Ω               | 1.5     |
| Resistance to solder heat                          | ΔR%   | 5.0 + .001Ω               | 2.0     |
| Vibration and bump                                 | ΔR%   | 5.0 + .001Ω               | 2.0     |
| Voltage proof                                      | volts | 500 min                   |         |
| Pulse handling                                     |       | Data available by request |         |

**W31 Series Derating Curve**



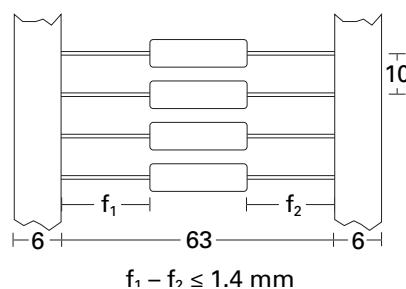
### Packaging

The standard method of packaging is taped in ammo packs.  
Can be provided on reels by request.  
W31 resistors can be supplied preformed.  
Contact factory for details.

## Application Notes

The terminations should not be bent closer than 1.6mm from the body, and the recommended minimum bend radius is 1.2mm.

Care must be taken when determining clearance between the resistor body and the P.C.B. or other components. Resistance is measured 6mm from body.



## Ordering Procedure

Example: W31 at 1 kilohms and 1% tolerance packed in a box of 1000 pieces

**W 3 1 - 1 K 0 F A 1**

Type \_\_\_\_\_

Value (use IEC62 code) \_\_\_\_\_

Tolerance (use IEC62 code) \_\_\_\_\_

Packing \_\_\_\_\_

|   |    |
|---|----|
| F | 1% |
| G | 2% |
| J | 5% |

|    |      |           |          |
|----|------|-----------|----------|
| A1 | Ammo | 1000/box  | Standard |
| T1 | Tape | 1000/reel |          |