

## ANTI-SHOCK RACKS FOR INDUSTRIAL BATTERIES

### 1.0 SUPPORT FRAMES

#### 1.1 MATERIALS

Support frames are manufactured from square and rectangular hollow section steel with a wall thickness ranging from 1.5mm to 3mm. Tubing for high yield strength requirements will comply with BS EN 10113: 1993: Part 1. Tubing for lower yield strength requirements will comply with BS6323 Part 5: 1982 ERW1.

#### 1.2 SURFACE TREATMENT

Where required, the material will be pickled prior to processing. All material will be washed and phosphate treated prior to surface coating.

#### 1.3 COATING

Frames are coated with epoxy. The standard colour specified is RAL9011 (Satin Black). Minimum thickness specified is 70µm. (See NTS02 for details)

### 2.0 RUNNERS (SUPPORT BEAMS)

#### 2.1 MATERIALS

Runners are manufactured from square hollow section steel with a wall thickness of 1.5mm. Tubing will comply with BS6323 Part 5: 1982 ERW1

#### 2.2 SURFACE TREATMENT

Where required, the material will be pickled prior to processing. All material will be washed and phosphate treated prior to surface coating.

#### 2.3 LOADING CAPACITY

The load bearing capacity of a runner is defined by the calculated deflection under maximum load at its midpoint. Maximum deflection allowed is 0.6mm. Under such deflection, stress in the runner will typically be around 20% of yield stress.

#### 2.4 COATING

Runners are coated with epoxy. The standard colour specified is RAL9011 (Satin Black). Minimum thickness specified is 70µm. (See NTS02 for details)

### 3.0 BATTERY RETAINING RAILS

#### 3.1 MATERIALS

Runners are manufactured from square hollow section steel with a wall thickness of 1.5mm. Tubing will comply with BS6323 Part 5: 1982 ERW1

#### 3.2 SURFACE TREATMENT

Where required, the material will be pickled prior to processing. All material will be washed and phosphate treated prior to surface coating.

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### 3.3 COATING

Retaining rails are coated with epoxy. The standard colour specified is RAL9011 (Satin Black). Minimum thickness specified is 70µm. (See NTS02 for details)

## 4.0 BRACES

### 4.1 MATERIALS

Braces are manufactured from flat steel strip 25mm wide x 5mm thick. Strip material will comply with BS EN 10113: 1983: Part 1.

### 4.2 SURFACE TREATMENT

The material will be pickled prior to processing. All material will be washed and phosphate treated prior to surface coating.

### 4.3 COATING

Braces are coated with epoxy. The standard colour specified is RAL9011 (Satin Black). Minimum thickness specified is 70µm. (See NTS02 for details)

## 5.0 FASTENERS

### 5.1 MATERIALS

All male fasteners will comply with BS3692 or DIN931 and will be grade 8.8. All female fasteners will comply with DIN934 and will be grade 8.

### 5.2 COATING

All fasteners are to be supplied in a Bright Zinc Plate condition.

## 6.0 BOLT DOWN BASEPLATES

### 6.1 MATERIALS

Baseplates are manufactured from flat steel strip 75mm wide x 10mm thick. Strip material will comply with BS EN 10113: 1983: Part 1.

### 6.2 SURFACE TREATMENT

The material will be pickled prior to processing. All material will be washed and phosphate treated prior to surface coating.

### 6.3 COATING

Baseplates are a welded assembly with the support frame and therefore also coated with epoxy. The standard colour specified is RAL9011 (Satin Black). Minimum thickness specified is 70µm. (See NTS02 for details)

## 6.0 DESIGN BASIS

### 6.1 STRUCTURE

Anti-Shock designation for a rack specifies that it provides enhanced levels of Health & Safety

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when used in environments which could potentially render a static rack design hazardous. This does not imply that it should be substituted for a seismic rack under low load conditions. Anti-Shock racks are based upon the standard material sections used for their static equivalents yet utilise retaining rails to prevent a battery toppling and base plates to ensure the structure can be fixed to the supporting floor.

Typical applications include heavily manned plant rooms, particularly those in which mobile handling equipment is used, equipment destined for use in construction sites and any other location where similar environments may be encountered.