



JASH PRECISION TOOLS LIMITED

Phone : ++91-731-2422776 / 4210800 Fax: 2421830

Email: info@jashmetrology.com Website : www.jashmetrology.com

DATA SHEET FOR CAST IRON TESTING BEDS / FLOOR PLATES FOR MECHANICAL EQUIPMENT TESTING RIGS

| A - Company details | | | |
|--|---|--|---------------------------|
| 1 | Name of Executive | | |
| 2 | Designation | | |
| 3 | Name of Company | | |
| 4 | Complete postal address | | |
| 5 | Phone, extension and fax numbers | | |
| 6 | Cellular / Mobile number | | |
| 7 | E-mail ID | | |
| 8 | Company website | | |
| B - Details of basic equipment | | | |
| 1 | Intender Use of Floor / Bed Plates | : Assembly / Testing / Fabrication / Use with Machine Tools | |
| 2 | Basic equipment under testing | | |
| 3 | In case of Testing Application – Equipment u / testing is (a) Rotating type or (b) Reciprocating type | | |
| 4 | Overall dimensions of equipment under testing L x W x H | (a) Length | mm |
| | | (b) Width | mm |
| | | (c) Height | mm |
| 5 | Equipment mounting foot print area (L X W) | (a) Length | mm |
| | | (b) Width | mm |
| 6 | Equipment clamping bolt size to size of T-slot required | mm | |
| 7 | Weight of equipment under testing | Kg. | |
| 8 | Dynamic loading | Kg. | |
| 9 | Maximum vibration amplitude | | |
| 10 | Alignment tolerances | | |
| 11 | Size of testing bed required | (a) Length | mm |
| | | (b) Width | mm |
| | | (c) Height | mm |
| C - Details of Dynamometer or testing equipment | | | |
| 1 | Make, Type , Model | | |
| 2 | Overall dimensions L X B X H | (a) Length | mm |
| | | (b) Width | mm |
| | | (c) Height | mm |
| 3 | Testing equipment mounting foot print area L X W | (a) Length | mm X (b) Width mm |
| 4 | Equipment clamping bolt size to size of T-slot required | mm | |
| 5 | Weight of testing equipment | Kg. | |
| 6 | Testing equipment and equipment under testing to be installed on to one single base plate? | YES / NO | |
| D – Details of test bed / Floor Plates required | | | |
| 1 | Overall layout area of Test Bed / Floor Plate | Length | mm X Width mm X Height mm |
| 2 | Overall Individual size plate L X W X H | Length | mm X Width mm X Height mm |
| 3 | Size of T-slots & Pitch distance between two T-slots | | |
| 4 | Whether T- slots required along length only or along width only or both directions? | (a) Along length only (b) Along width only (c) Both directions | |
| 5 | Working surface accuracy required? | | |
| 6 | To be installed | (a) Directly on shop floor (b) Sunk into a pit in shop floor (c) On elevated platform / block above shop floor | |
| 7 | Designed static and dynamic loading | (a) Static Load | Kg. |
| | | (b) Dynamic Load | Kg. |
| 8 | Any other specific requirement? | | |

Note: For technical guidance please read on reverse of this page, page 2 of 2.



JASH PRECISION TOOLS LIMITED

Phone : ++91-731-2422776 / 4210800 Fax: 2421830

Email: info@jashmetrology.com Website : www.jashmetrology.com

- Accuracy: Typically the accuracy applicable for individual testing beds is as follows. "L" is the length of testing bed.

| "L" mm | 1,000 | 1,500 | 2,000 | 2,500 | 3,000 | 3,500 | 4,000 | 4,500 | 5,000 | 5,500 | 6,000 | 6,500 | 7,000 |
|--------|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Grade | Accuracy in microns | | | | | | | | | | | | |
| III | 80 | 100 | 120 | 140 | 160 | 180 | 200 | 220 | 240 | 260 | 280 | 300 | 320 |
| II | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 |

- "T" – Slots are clamping type slots having width and tolerance dimensions as follows.

| | | | | | |
|-------------------|-------|-------|-------|-------|-------|
| Slot width, in mm | 18H12 | 22H12 | 28H12 | 36H12 | 42H12 |
| Max. bolt size | M16 | M20 | M24 | M30 | M36 |

- Standard pitch distances between two adjacent T-slots for respective width are as follows.

| | | | | | |
|----------------------------------|------------|------------|------------|-------|-------|
| Standard width of test bed in mm | 1,000 | 1,500 | 2,000 | 2,500 | 3,000 |
| Standard pitch distance in mm | 125 or 150 | 150 or 200 | 200 or 250 | 250 | 250 |

Note: Specified pitch distance may be provided but will add to costs and protracted delivery schedules

- **Installation:** Bedplates can be installed as per their application requirement. It could be any of the following methods. However, bedplate supporting concrete floor must be firm, non-flexural and rigid without any settlement of base underneath the bedplate what-so-ever because of static and variable live & dynamic loading conditions on to the bedplates.

- If bedplate is small to medium in size than it can be installed at an elevated height as required above shop floor level. For this bedplate can be installed on to a steel fabricated stand or cast iron pedestals or a concrete platform. In such a case normally the ergonomic working height is about 750 mm from average floor level.
- Bedplates can also be installed directly on to the shop floor. In such a case the height of the working surface will be above the shop floor level by say 1.3 to 1.5 times the specified depth or height of the bedplate.
- Bedplates can also be sunk and installed into a pit in the shop floor such that the working surface is either flush with shop floor level or about 50 mm to 80 mm projecting above shop floor level. This projection is to facilitate insertion and / or removal of fixing T-Bolts and T-Nuts from T-slot ends. A pit depending upon overall working surface size has to be minimum 300 to 400 mm larger on all four sides to facilitate installation. The depth of the pit in the shop floor has to be minimum 1.3 to 1.5 times the specified depth or height of the bedplate. The gaps all around bedplate is closed / covered by removable type steel sheet fabricated covers.
- Bedplates can be anchored on to the floor on (i) pre-grouted (as per drawing to be supplied by JASH) base supplied with the bedplates or (b) expandable anchor bolts driven into the concrete or trimix concrete floor. Normally expandable anchor bolts are procured locally by the buyer.
- All bedplates are leveled from top working surface by accessing the leveling and anchoring bolts. Wherever top accessing pockets are provided a removable type pocket cover is provided. This cover protects the hollowed pocket gap from ingress of loose materials collection thereof in to hollowed pocket gaps and leveling and anchoring bolts can be easily accessed by removing pocket cover without much of the cleaning for re-leveling and clamping of the bedplates, when ever required at later time of use. Removable pocket covers fairly loose and are usually minimum 2.0 mm below the working surface level.

- Installation and alignment of mechanical equipment is not a trivial undertaking. It is vital activity in design of the system as a whole and requires careful consideration in selecting the equipment and the methods employed for installation and alignment of the system to increase the economic importance of high reliability. The alignment tolerance values for particular parameter must be well defined right at the initial stage of system design. Installation and alignment has direct bearing on efficient, economic, reliable, productive and trouble free functioning of the system for its useful life span. That said, it is simpler to undertake this important activity beforehand rather than waiting for the equivalent or alternative installation and alignment methods sought at the time of installing a system. These last moment installation and alignment activities inhabit lots of short cuts thereby defeating basic purpose of the system though it may appear to be working alright but only in short runs. Ideally, any system will perform to its peak efficiency only when alignment of the system is orthogonal with respect to the reference line or the reference plane or surface.

All datum surfaces are leveled, aligned and grouted or anchored onto rigid and stable concrete base that should be adequate to sustain the design loads. A rule of thumb says that for rotating system the weight of concrete foundation underneath datum surface should be at least three times the total weight of the system as a whole and at least five times in case of reciprocating system as a whole, including the static weight of datum surface base. Typically, the weight of well compacted with least voids and dense plain cement concrete is considered as approximately 2,600 Kg. / m³. In several cases, based on system application, the concrete foundation or base is isolated using resilient isolation elements. Again depending upon system application requirement the system may also be isolated using passive type resilient anti vibration mounts, air springs or active types of air springs.