

Application

Herculon Modified Type D (HLMD) Bearings (see Fig 2-4) have been developed to fulfil the need for a simple, low friction, highly stressed bearing on corbels and columns where a continuous slipjoint is inappropriate. They can be used under cast in-situ and post-tensioned slabs and beams.

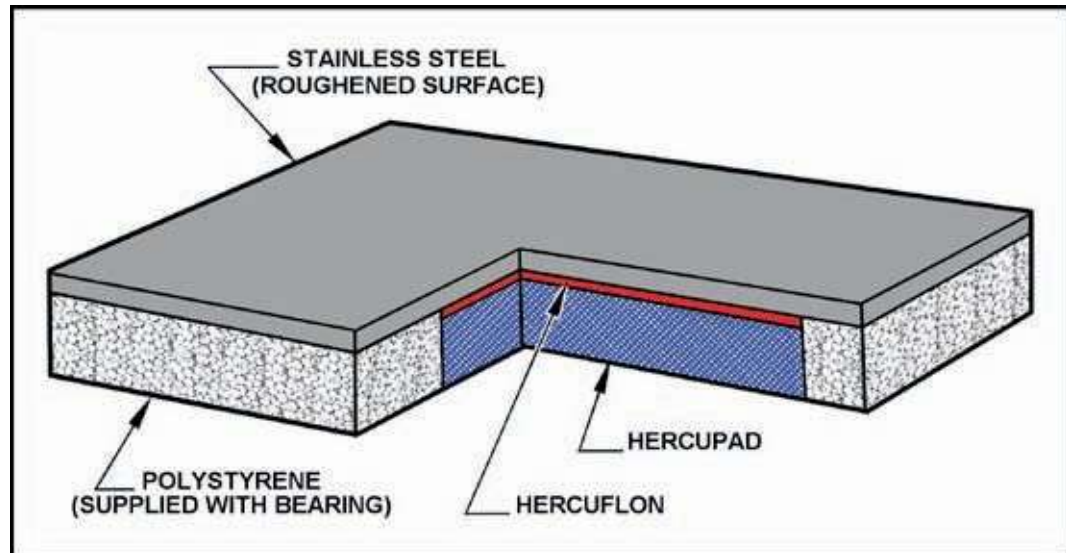


Fig 2-4 Herculon Modified Type D Bearing

Materials

HLMD bearings consist of a stainless steel top plate roughened on the upper surface and polished on the lower. This steel plate slides against a *Hercuflon* coated *Hercupad*.

Types

There are two basic types of *HLMD* bearings available:

- Standard, and
- Seismic.

The seismic bearings are manufactured from the same materials as the standard bearings but they have greater all round expansion capacity (± 50 mm) to accommodate the larger movements which occur during seismic shock.

Design

The following design limitations are recommended:

- Coefficient of friction 0.05.
- Expansion capacity up to ± 20 mm (standard), up to ± 50 mm all round (seismic).
- Maximum contact stress 10 MPa.
- Maximum temperature 80°C.
- Maximum rotation up to 0.02 radians.

 **NOTE**

Non standard bearings can be manufactured to accommodate larger expansions and differing rotations.

Installation

Fig 2-5 shows a *HLMD* bearing being cast into an in-situ roof slab. Before leaving our factory the bearing pad is blocked in with polystyrene strips, and the whole bearing assembly is sealed with paper tape. This tape excludes dirt and dust from the *Hercuflon* face and should not be removed.

The *HLMD* bearing should be installed as shown in Fig 2-5 and in accordance with the following instructions:

1. Prepare concrete seatings with a nominal 10 mm thick mortar pad with a wood float finish so that the level does not vary more than 2 mm from a straight edge placed in any direction across the seating. The horizontal plane of the seating should vary no more than 3 mm from the elevations shown on the plans.
2. Place the bearing in the position shown on the plans and cut any extra strips of expanded polystyrene required for blocking out around the bearing.
3. Remove the bearing and the loose polystyrene strips and brush off any dust or grit.
4. Apply *Hercules Adhesive Type HBA* and bond into position.
5. Cover the joints between the bearing and polystyrene strips with polythene sheet or masking tape to prevent the ingress of concrete during the pour.
6. Pour concrete directly onto the roughened top surface of the stainless steel top plate.

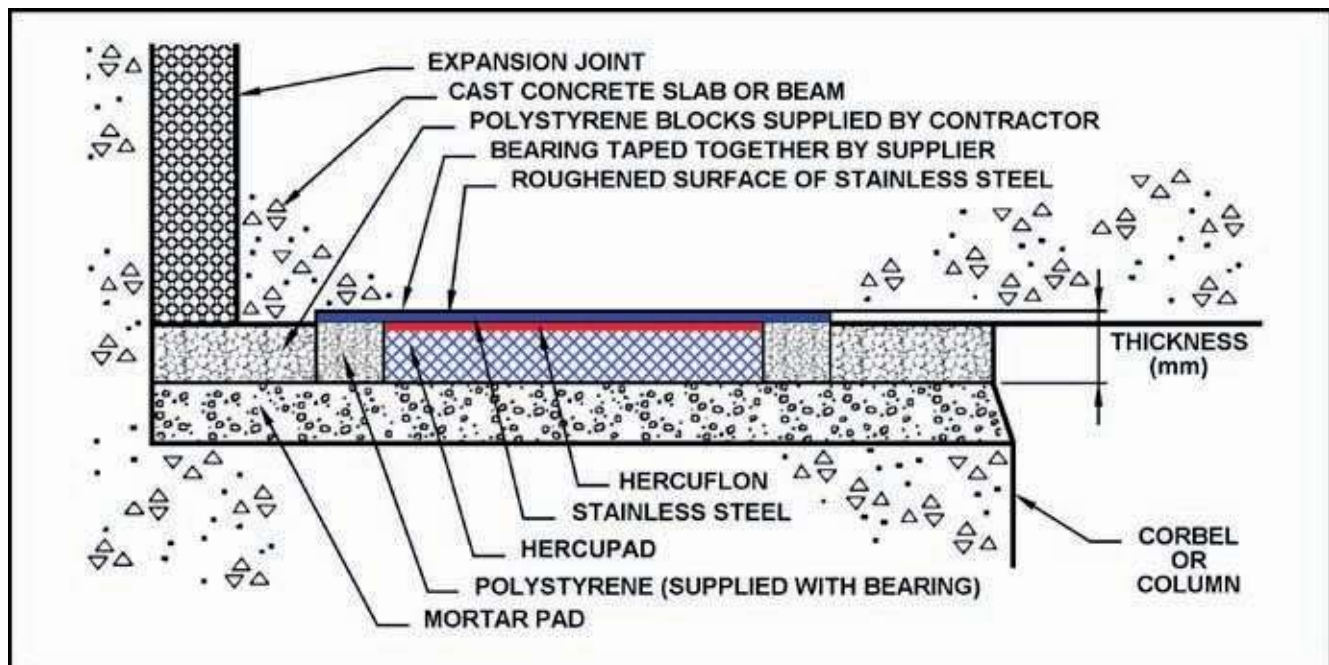


Fig 2-5 Installation of Herculon Modified Type D Bearing

Ordering

Table 2-3 (standard) and Table 2-4 (seismic) detail the range of sizes that are available. Figure 2-6 provides the dimension reference points reflected in the tables. Please contact our Technical Department if these sizes do not suit your requirements.

Table 2-3 Part Numbers for Standard Modified Type D Bearings

Part Number	Max. Vertical Working Load (kN)	Top Plate (mm) C x D (for ± 20 mm expansion)	Rubber Pad (mm) A x B x E (for 0.02 rads rotation)	Overall Dimensions (mm) C X D x F (nominal)	Bearing Weight (kg)
HLMD/100	100	120 x 150 x 1.5	75 x 135 x 17	120 x 150 x 19	0.40
HLMD/150	150	145 x 165 x 1.5	100 x 150 x 17	145 x 165 x 19	0.60
HLMD/200	200	170 x 175 x 1.5	125 x 160 x 23	170 x 175 x 25	0.80
HLMD/250	250	180 x 205 x 1.5	135 x 190 x 23	180 x 205 x 25	1.20
HLMD/300	300	185 x 230 x 1.5	140 x 215 x 23	185 x 230 x 25	1.40
HLMD/350	350	195 x 250 x 1.5	150 x 235 x 29	195 x 250 x 31	1.80
HLMD/400	400	205 x 265 x 1.5	160 x 250 x 29	205 x 265 x 31	2.10
HLMD/450	450	215 x 285 x 1.5	170 x 270 x 29	215 x 285 x 31	2.60
HLMD/500	500	220 x 305 x 1.5	175 x 290 x 29	220 x 305 x 31	2.90
HLMD/550	550	235 x 310 x 1.5	190 x 295 x 29	235 x 310 x 31	3.20
HLMD/600	600	250 x 315 x 1.5	205 x 300 x 29	250 x 315 x 31	3.80

Table 2-4 Part Numbers for Seismic Modified Type D Bearings

Part Number	Max. Vertical Working Load (kN)	Top Plate (mm) C x D (for ± 50 mm expansion in all directions)	Rubber Pad (mm) A x B x E (for 0.02 rads rotation)	Overall Dimensions (mm) C X D x F (nominal)	Bearing Weight (kg)
HLMD(SE)/100	100	175 x 235 x 1.5	75 x 135 x 17	175 x 235 x 19	0.70
HLMD(SE)/150	150	200 x 250 x 1.5	100 x 150 x 17	200 x 250 x 19	0.90
HLMD(SE)/200	200	225 x 260 x 1.5	125 x 160 x 23	225 x 260 x 25	1.20
HLMD(SE)/250	250	235 x 290 x 1.5	135 x 190 x 23	235 x 290 x 25	1.60
HLMD(SE)/300	300	240 x 315 x 1.5	140 x 215 x 23	240 x 315 x 25	1.80
HLMD(SE)/350	350	250 x 335 x 1.5	150 x 235 x 29	250 x 335 x 31	2.30
HLMD(SE)/400	400	260 x 250 x 1.5	160 x 250 x 29	260 x 350 x 31	2.50
HLMD(SE)/450	450	270 x 370 x 1.5	170 x 270 x 29	270 x 370 x 31	3.10
HLMD(SE)/500	500	275 x 390 x 1.5	175 x 290 x 29	275 x 390 x 31	3.40
HLMD(SE)/550	550	290 x 395 x 1.5	190 x 295 x 29	290 x 395 x 31	3.70
HLMD(SE)/600	600	305 x 400 x 1.5	205 x 300 x 29	305 x 400 x 31	4.40

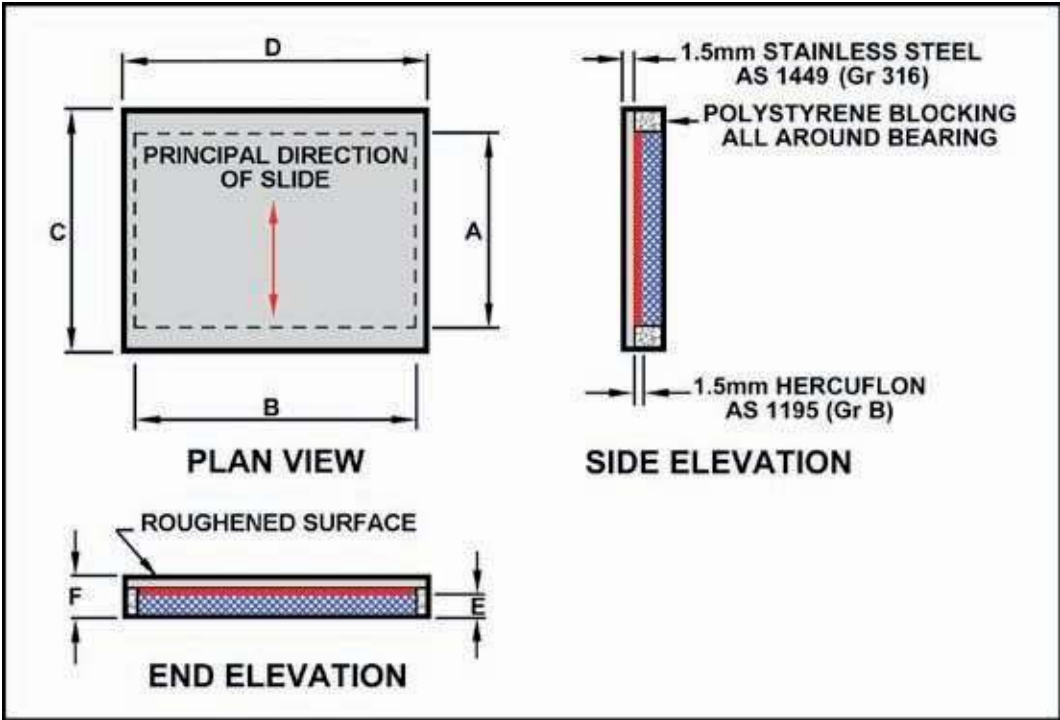


Fig 2-6 Dimension Reference Points