17 Group 17 - Miscellaneous Bridgeworks Items
1\ 17 1 Ö ¦ • ± 0;N©-

17.1 Proprietary Products
C 9 × ñ

Where proprietary products are specified by name on the Drawings it implies a standard and is in no way intended to preclude the use of an alternative approved by the Engineer. The product shall be used in accordance with the manufacturer ÿ s instructions. Where such instructions are in conflict with the Drawings or Specification the Contractor shall draw the Engineer ÿ s attention to the inconsistency and await the Engineer ÿ s direction.

² Ì X .4è : ¯+X =0 7 Ê ¶ C 9 × ñ È I ¦ ? £-p u ƒ 7 ö È ¦ D5 = ? . Â L” ¯+X- *6 0; 8 © ö,´ / ñ Ä Ä 9'— fFP v,´B$ > ¯+X × ñ Ä ² Ì!”1yB$ > > .4è F?ô 93-(â0± È ¯ 5 v Ä B'- *6 0; 8# ? = 08$ { 4 ¦1y µ- *6 0; 8,´ 7/j Ä

17.2 Bearings
_ ×

17.2.1 General
²F

epoxy resin adhesive to the upper surfaces.
L”MŽ .4è : 9B$ > È V I p 9 _ × Ä ¯+X4ÿ © ö,´)ß"W A722È 8 r2È 8 ` :>˜ M’ Ä

The Contractor shall submit test certificates to the Engineer giving physical properties and mechanical properties for each bearing. All bearings shall be indelibly marked with appropriate bearing type number and a unique number for correlation to test certificates.
¯ 5 v Ä A- *6 0; 8 Ô#{B Añ – È Ë!ÿ Z _ ×,´(™*6 W7- ¼ j à W7- Ä p 9 _ × Ä § 9"h u W 7Aà È 7 # *F2 ƒ _ ×2« »5F ' ¼ _ 05F ' È ï >#{B Añ –-(£6„ Ä

manufactured from austenitic stainless steel conforming to ASTM A240M Grade 316 L with 2B-mill surface finish.
% Ø ¯ ¼ , A v :,´% ØM’ Ä ¯+X1V 8 ASTM A240M] 316 L 4× [,´ •"? ƒ =K8JÒ fFP È>˜M’ y#1 Ö j 2B E— f Ä

c. Bolts, nuts and washers shall conform to sub-clause 15.2.2.3.
=ê C Ã=ê!ý ¼ Û 8 Ä1V 81\ 15.2.2.3 !n,´?ô Ê Ä

d. Sliding pads and strips shall be 100% virgin polytetrafluoroethylene (PTFE) conforming to ISO 13000-1 Grade 1, and etched on the side bonded to the steel.
% Ø Û(w ¼% ‘ Ä+a100%4ß ð,´6Š "O ‰' ÄPTFE Åf @ ÈV 8 ISO 13000-1 ,´ 1 4× 7 ö È ¦ X >JÒ2È 8,´ 0 ×F >|<° k Ä

e. The sliding pad shall be unfilled PTFE dimensionally stabilised moulded sheet that is dimpled and lubricated in accordance with Clause 14.2 of AS 5100.4 on the face in contact with the sliding surface.
% Ø Û(w Ä Z › u PTFE È D j § 90c Ê j (,´ Q •(w È ¦ 9'— AS 5100.4 ,´1\ 14.2 ‘?ô Ê X >% ØM’ Õ@ ,´>˜M’ :FP0Í úF >|#Ö% Ä

f. The sliding strips on the guide faces shall be a durable filled PTFE with fillers being either milled glass fibre (25% maximum) or carbon fibre (25% maximum). Alternatively, sliding strips may be a multilayered composite material e.g. for a three layer composite; a bronze backing strip, a sintered interlocking porous impregnated matrix, and an overlay of PTFE/lead, graphite/lead or similar mixture.
, AM’ :,´% ‘ Ä6@+X D " › u,´ PTFE È› u(™ jK z)ë*³4Ô5$ Ä 0 W25% Å F.ã4Ô5$Ä 0 W 25% Å Ä F65 È% ‘ +a J r = 8 € É f @ È » ² È 9 r = 8 € É È £M,K 6ü Û ‘ Ã' 5 6< @6„K1 J „#¨$= * ƒ Ã ú PTFE/Jõ Ã.# Ø/Jõ F2« l$' 8(™,´?¶- r Ä

g. The elastomer used in the elastomeric disc must comprise 100% virgin natural rubber (polyisoprene). The elastomer must be plain, not laminated or fibre reinforced. The elastomer and its testing must conform to Type 53H of Appendix B of AS 5100.4.
i W-] ¯+X,´ i W ƒ õN«+a 100% àRÌ Y'f ‘7& Ä6Š 2 : ¼' Å4ô @ Ä i W ƒ = Ç [9 > ¦ rCX È = Ç j r » f @ F4Ô5$ Î j,´ Ä i W ƒ ú ¦#{B õN«1V 8 AS 5100.4 Lt … B],´ 53H »?ô Ê Ä

h. Internal seals shall be made from rectangular brass sections conforming to AS/NZS 1567 (half

underlying support surface, prior to opening the bridge to traffic.
) ¾ i W ƒ _ × È _ ×,´N¦M’ ¼ ÅM’ Ä 6 [> _ Á,´ :G 5 ´ s & ú ;M’,´ _ Á>˜M’ ¼ ˜ Õ@ È'f > • ± FJE– Ä

17.2.4.2 Installation Tolerances
¹>õ œ

Unless otherwise nominated on the Drawings, tolerances for installation of bridge bearings shall be as follows:
L”MŽ X .4è] 9B$ > È V I • ± _ ×,´ ¹>õ œ Ä ² ; p/j Ö

a. Elastomeric Bearings
i W _ ×

For plain elastomeric strips and pads or laminated elastomeric bearings, the tolerances in Table 17-1 below apply:
) ¾ žFJ i W ƒ ‘ ¼ Û(w F r » i W ƒ _ × ÈF2+X ;>˜ 17-1],´ œ Ö

Table 17-1 Bearing Installation Tolerances
>˜ 17-1 _ × ¹>õ œ

Bearing Type **_ ×2« »**	**Item** **N©-**	**Tolerance** **œ**
Elastomeric Strip i W ƒ ‘	Level "d £Q Ö	f 2.5 mm
	Flatness of top surface N¦>˜M’ £ ¤ Ö	0.5 mm over a 1.2 m straight edge ¯+X 1.2 2£-$ j#{GÿCµE÷0.5 " 2£
	Transverse slope Z ‘ Longitudinal slope 4å ‘	0.0005 radians 0.0005 W Ö

Pot bearings shall be located such that the bearing centreline in each direction is within 3 mm of the location shown on the Drawings.
,ö ? _ ×,´ }5ž Ä% Cã!ÿ Z é A,´ _ ×] ó4ï X .4è p/j }5ž,´ 3 mm 93 $ µ,´?±"r Ä

For bridges comprising simply supported girders, bearings shall be set to the levels shown on the Drawings within a tolerance of f 5 mm.
) ¾ õ õ+a _ ± ´ @,´ • ± È _ × ÄAî5ž X .4è p/j,´"d £Q Ö È œ j f 5mm Ä

For bearings supporting continuous superstructures, bearings shall be set to the level shown on the Drawings with a tolerance of f 0.0001 times the sum of the length of the adjacent spans, but not exceeding f 5 mm.
) ¾ _ ÁF 5 :G 5 ´,´ _ × Ěç¤9 Ä Aî5ž X .4è p/j,´"d £Q à Ö "vœ È œ j f6 'å¤# f ¾ -(FëD L$K¯ Ö,´ f 0.0001 = È v = ÇCµE÷f 5 mm Ä

The bearing inclination including any attachment plates which form part of the bearing shall be within 1 in 200 of that shown on the Drawings.
_ × Ì)· Ä 5 ´ @ _ × 0G 6,´ + …F Õ ¯ Å Ä X .4è p/j 5 ,´ Ì)· { µ Ä 5 0.0001

17.2.4.3 Mortar Pads
.2#v Û r

Mortar to be used in mortar pads shall be approved by the Engineer. Cement mortar shall be used for mortar pads under elastomeric bearings. The mortar shall contain sufficient coarse sand to provide a rough texture on the contact face to ensure frictional restraint to the bearing. The contact face shall be flat with a surface roughness no smoother than Grade 40 sandpaper.
X.2#v Û r] ¯+X,´.2#v Ä4ÿ- *6 0; 8 © ö Äš "‰£Ú 5 ´ P!Mp

² Ì ¯+X.2#v Û r • _ Á _ × È I.2#v Û r Ä8# A & h ` _ ×,´ ¤ Z?ô B j
ú ` & h ` _ ×Eé5H F8# A 25mm Ä ² Ì i W _ × õFJE÷ ™ • ¯ ¦ 1 X }5ž
: È I.2#v Û r Ä & h ¦Cµ * _ ×Eé5H È D8# ACµ * _ ×Eé5H F 50mm Ä XF Ë
0 ?93 $ { F,´ j] È.2#v Û rN¦G >˜M’ õN«F /ë _ × n Ì Ä

The mortar pad shall be cast on a surface adequately prepared and compatible with the mortar used. The edges of the mortar pad shall be inclined at an angle of less than 45 e to the supporting surface. The compressive strength of the mortar shall be as stated on the Drawings and capable of transmitting the design loads to the structure without damage.

.2#v Û r Ä#wK(X u 6 4*6E÷,´>˜M’ : ¦ > p+X.2#v-(é Ä.2#v Û r,´Eé5H Ä >
_ Á>˜M’ @ ? ¾ 45 e ,´@ Ö n Ì Ä2#v,´ Ç » j Ö Ä ² .4è p/j È¦7- O 6AîAÑ
9§E- PFB5 5 ´6< = JFP @ • • Ä

Temporary supports under the bearing baseplates shall not be removed until after the

) ¾,ö ? _ × È XM0?± _ × ¯ + …F Ø { } È Ä öL” d & i3W>õ5ž Ä Ä 6- *6
0; 8 © ö,´ € É › u ` öL” d & i § & äMb,´ „] Ä

Where bearings are installed prior to forming a cast-in-place concrete deck, the formwork around the bearing shall be sealed to prevent leakage of the concrete. Bearings shall not be tilted, displaced or distorted during concreting operations. Any

removed.
² Ì X)à#w$' O •M’ ’ @ { } ¹>õ _ × È I Ä ö 1 _ × ˜ $,´ Q ¯ 0; Lb!’
$' O"ô%? Ä X$' O#w1•E÷0;] È = Ç n Ì Ã0+ } F • " _ × Ä Ä « Å D0û £
$5L” + … 7-'“ _ ×,´.2#v Ä

17.3 Deck Joints, Sealants and Void Formers
M’ ¯ Õ5M Ã ö 1 r ú f „ j

17.3.1 Impact Angles
â +@

Where shown on the Drawings, the concrete edges at deck level shall be protected by steel angle sections, bent, if necessary, to conform to the profile of the wearing surface, and rigidly fixed to the superstructure as shown.
² .4è p/j È Ä ¯+X@ JÒ Ô } ¾M’ ¯Q Ö,´$' OEé5H Ä õ?± & _ " Å È
1V 8/ •>˜M’ ,´Ež È ¦ ² . p/j J W * Ê X :G 5 ´ : Ä

Care shall be taken in placing concrete adjacent to the protection angles to ensure that it is sound, without air pockets and is properly worked into corners and/or below the outstanding legs of the angles.