

**COMMERCIAL OFFER
FOR THE MANUFACTURE, TESTING AND SHIPPING
OF TRIPLE PENDULUM BEARINGS FOR
SAUL GARRIDO HOSPITAL IN TUMBES, PERU**

Earthquake Protection Systems Perú and its represented Earthquake Protection Systems, Vallejo - California, USA (“EPS”) offers to manufacture, test and ship to the construction site 18 Triple Pendulum Bearings FPT8836/16-12/11-6, 139 FPT8831/12-12/8-5 and 1256 shear lugs with bolts (kits of connection) for Saul Sagaro Hospital in Tumbes, Peru for a Total Delivered Price of US\$ 2,371,000, included IGV tax.

The Total Delivered Price includes the following Scope of Work:

- Bearing Testing Reports signed by licensed California Professional Engineer.
- Dynamic Property Testing of 2 prototype isolators FPT8836/16-14/11-6 and 2 prototype isolators FPT8831/12-12/8-5.
- **Dynamic Quality Control Testing of 161 isolators, including 4 prototype isolators.**
- Manufacture and supply of 157 isolators for installation.
- Manufacture and supply of 1256@3”x11” shear lugs with 1.5” of diameter installation bolts.
- EPS engineering expertise and technical support to contractor and supervisor of construction.
- Shipment of 157 Isolators and 1256 shear lugs in containers from the EPS Factory to the Callao Port in Peru.
- Importation and custom clearances in Peru.
- **Shipment of 157 isolators and 1256 kits of connection from Callao port to Construction site in Peru.**

The total price excludes the following;

- Unloading of shipping containers at construction site
- Bearing installation

Engineering and Test Report: EPS will submit a signed and stamped Bearing Engineering and Test Report, and individual bearing QC Test Reports, taking professional engineering responsibility that the bearings have the materials, manufacturing, capacities and properties as specified herein. The report will include the dynamic property tests and quality control tests as specified therein.

Manufacture and Testing: Dynamic Property and Quality Control tests will be according to the Seismic Isolation Standard <https://goo.gl/h82Fnk>.

Isolator Shipping: Isolators will be manufactured, tested and ready to load into shipping containers; with 50 isolator in 12 weeks after receipt the the payment 1 and 50 isolators per week until complete the balance to the 157 isolators. Isolators are expected to arrive at the construction site within 12 weeks after receipt of Payment 2.

Isolators are packaged for unloading and handling by fork truck. Buyer must unload containers at the construction sites within 2 hours of arrival, to promptly return the containers to the port.

Schedule of Payments:

Payment 1: US \$ 474,000 upon acceptance of Offer by Buyer

Payment 2: US \$ 1,897,000 upon submission Bearing Quality Control Test reports.

Payment 2 must be received by EPS before isolators are loaded into shipping containers.

All payments made shall be in US Dollars and deposited to:

Banco de Credito del Peru

Name on Account: Earthquake Protection Systems Perú

Account N°: 191-2589245198

Or Account N° 002-191-00258924519857

Offer Acceptance: The undersigne Buyer and the legal entities that make Payments 1 and 2, have the obligations of the buyer (“Buyer”) under this Commercial Offer. Upon receipt of signed acceptance and receipt of Payment 1 by EPS, this Commercial Offer becomes a legally binding agreement (“Agreement”) between EPS and the Buyer. By making these payments the Buyer agrees to procure the Isolators and other services in accordance with the provisions, terms, and conditions as specified herein.

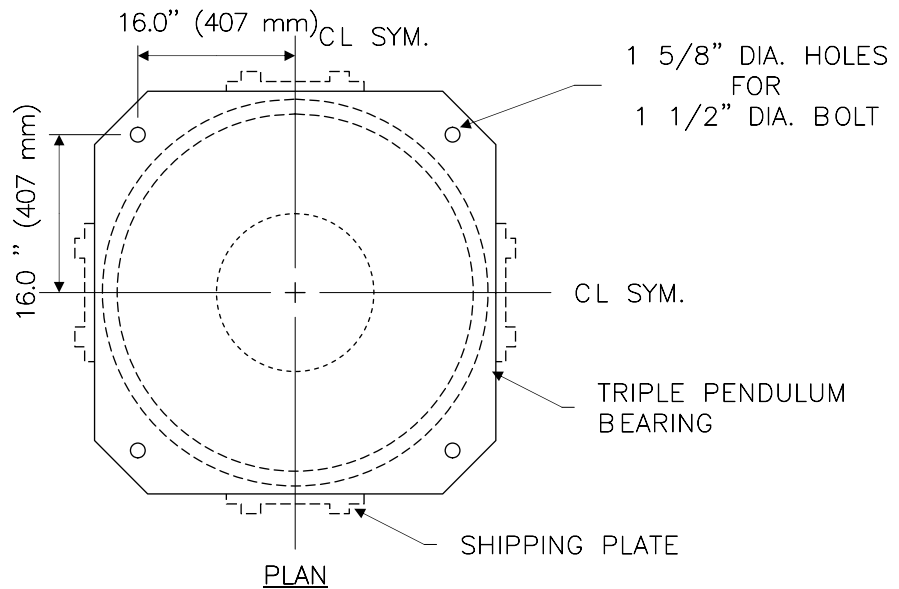
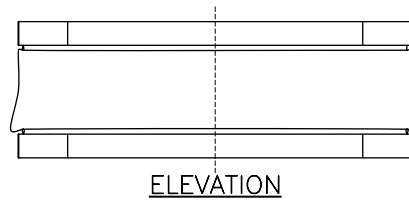
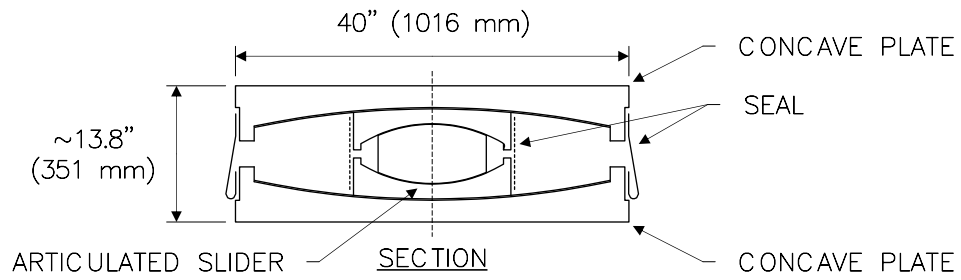
This commercial offer is valid for 14 days; after this date, EPS reserves the right to modify the price, schedule and terms, or withdraw the offer.

Offer Submitted on 31th May 2022 by:

Jhon Choque Bustinza

jhon@earthquakeprotection.com

EPS Perú



TOLERANCES:
 1. PLAN AND HEIGHT DIMENSIONS AND TOLERANCES TO DEFINED IN TEST REPORT.
 2. BOLT HOLE DIMENSIONS $\pm 1/16"$

ESTIMATED WEIGHT:
 3108 lbs

TRIPLE PENDULUM BEARING

BEARING: FPT8836/16-14/11-6

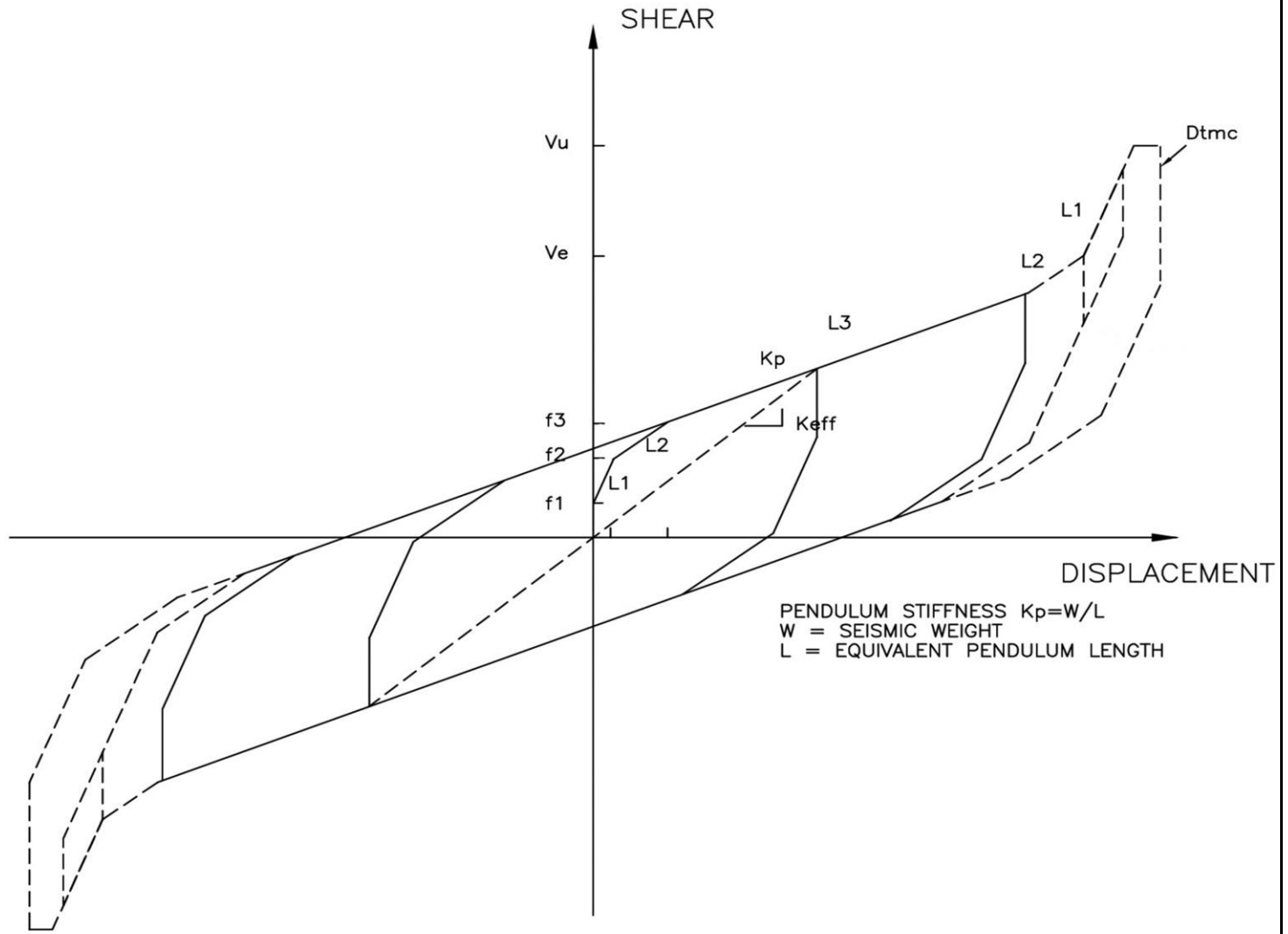
COPYRIGHT EARTHQUAKE PROTECTION SYSTEMS 2013

**EARTHQUAKE PROTECTION SYSTEMS
 VALLEJO, CALIFORNIA (707) 644-5993**

DRAWING NOT TO SCALE

DATE: 30/05/2022

FPT8836/16-14/11-6



FORCE DISPLACEMENT LOOP
AT QUALITY CONTROL TEST VERTICAL LOAD

DYNAMIC FRICTION PROPERTIES
AT QC LOAD: 412.2602 kips (1834 kN)

	f1	f2	f3
LOWER	0.01	0.02	0.03
UPPER	0.02	0.03	0.04

PENDULUM LENGTHS

- L1=22"(559mm)
- L2=95"(2400mm)
- L3=167"(4242mm)

DISPLACEMENT CAPACITIES

- Dtmc=28.8"(732mm)
- Dmc=19.2"(488mm)

PENDULUM PERIODS

- T1=1.5sec
- T2=3.1sec
- T3=4.1sec

FORCE DISPLACEMENT LOOP (NOT TO SCALE)
TRIPLE PENDULUM BEARING
FPT8836/16-14/11-6

COPYRIGHT EARTHQUAKE PROTECTION SYSTEMS 2013

EARTHQUAKE PROTECTION SYSTEMS
VALLEJO, CALIFORNIA (707) 644-5993

DRAWING NOT TO SCALE DATE 30/05/2022
FPT8836/16-14/11-6A

Seismic Isolator Specifications

May 30, 2022

The structure incorporating these isolators has been designed to reduce seismic damage and provide higher safety from collapse, as compared to structures designed to comply with the minimum requirements of the structure design code. This structure, and its intended seismic performance, is designed specifically for the properties and capacities of the Triple Pendulum Seismic Isolators as specified herein. These isolators were designed, specified, manufactured, and tested specifically to satisfy the specific seismic performance requirements of this structure. The Structural Engineer has reviewed, qualified and approved these isolators by this manufacturer for installation in this structure. These seismic isolators are manufactured and tested in accordance with the ISO 9001 materials and manufacturing standards of Earthquake Protection Systems, Vallejo California. www.EarthquakeProtection.com

The Contractor may propose alternate isolators having equal or better properties, capacities, reliability, and seismic damage reduction, as proven through equal product testing and analyses. Alternate isolators must be ISO 9001 manufactured products qualified in accordance with the **“Seismic Isolation Standard for Continued Functionality”** <https://goo.gl/h82Fnk>. Alternate manufacturers must demonstrate equal or better manufacturer's qualifications, seismic isolation engineering expertise, and product qualification testing in accordance with this Standard. Alternate isolators and manufacturers must be approved in writing by the Structural Engineer prior to submitting any construction bid based on alternates. Alternate isolators and manufacturers that do not comply with the Seismic Isolation Standard for Continued Functionality are not acceptable. The construction bid, and the isolators installed in the construction must be as specified herein, unless the Structural Engineer has provided written approval for alternates prior to bid. Costs to evaluate and approve alternates, and associated delay impacts, and any seismic damage that may result from using alternates, are the sole responsibility of the Contractor.

FPT8836/16-14/11-6 Bearing Specifications

(Copyright Earthquake Protection Systems)

Bearing Rated Capacities:

For ASCE7 Category IV Structure, System 2 SISCF isolator, with MCE Spectral Acceleration at 4 seconds: 0.13g

Recommended Maximum Average Vertical Load, Avg. (D+0.5Lr): 412 kips (1834 kN) min;

Recommended Maximum Vertical Load, Max (D+L) : 1529 kips (6802 kN) min;

Rated Lateral Displacement Capacities (min.): $D_{tmc} = \pm 28.8$ in. (731 mm); $D_{mc} = \pm 19.2$ in. (487 mm);

Rated Shear Load Capacities (min): Ultimate shear load capacity not less than 99 kips (440kN), simultaneous with a vertical load not less than 412 kips (1833kN);

Rated Rotation capacity: Under an imposed $2\pm$ angular rotation of the top bearing surface relative to the bottom surface, about any Cartesian axis of rotation, the bearing must elastically support the combined listed Elastic Vertical and Elastic Shear Load Capacities.

Factored Load Capacities on Concrete: When the bearing is supported on 4000 psi (28 Mpa) confined concrete, the permissible vertical structure loads on the bearings meeting ACI 318-08 Section 10.14 are:

$P_u = (1.2D + 1.6L) = 2140$ kips (9519 kN); $P_u = (1.2D + 0.5RL + E) = 2770$ kips (12322 kN) at 19.2” (487 mm)

displacement. Buyer is responsible to ensure that the application's demands are within the bearing capacities; and for the adequacy of the structure, connections, seismic loadings, seismic movement gaps; and for compliance with all construction document, design, and code requirements, as applicable to the use of the bearings.

Vertical Strength Capacities (min): Elastic 3799 kips (16901 kN) min; Ultimate 5699 kips (25351 kN) min.

FPT8836/16-14/11-6 Bearing Specifications

Materials: The bearing liner materials on the sliders shall be a non-metallic, self-sacrificing liner type, and provide the properties as specified herein. The bearing liner shall provide satisfactory performance for energy dissipation rate, heat resistance, and properties during all bearing tests herein, and meet the acceptance criteria as specified. The bearing liner material shall have a compressive strength capacity of at least 80 ksi. The material of the concave plates and slider components shall be ASTM A536, A576, A572, A108 or A36. The concave spherical surfaces of the concave plates shall be ASTM A240, Grade 304 stainless steel. The seals shall be an ethylene propylene (EPDM) material. Exposed metal surfaces of the bearing shall be blasted to SSPC/SP-6, and painted with zinc rich primer and urethane finish coat, minimum 5 mils DFT (excludes top and bottom bearing surfaces).

Manufacture: The bearing design, capacities, properties, materials, manufacture, and testing and quality control shall be in conformance with this specification and the International Standards Organization ISO9001:2015 Quality Control Program requirements for the “Design and Manufacture of Seismic Isolation Bearings” as approved under a current Certificate of Registration issued by the Orion Registrar. The EPS drawings and specifications are the only drawings, specifications, and requirements that apply to the manufacture, testing, and supply of EPS bearings. Construction document drawings and specifications do not apply to the materials, manufacture, or testing of EPS bearings.

Quality Control Tests: Real Time Quality Control tests will be performed on 100% of bearings in accordance with all requirements of the ISO9001:2015 Quality Control Program, and the “*Seismic Isolation Standard for Continued Functionality*” <https://goo.gl/h82Fnk>. The friction values obtained from the cyclic test of each individual bearing shall be within the specified individual bearing values. The average friction value obtained from the cyclic tests of all bearings shall be within the specified average bearing values. Report the effective stiffness and damping for the average of the 3 cycles.

Product Patents, Trade Marks, Proprietary Information, and Copyrights:

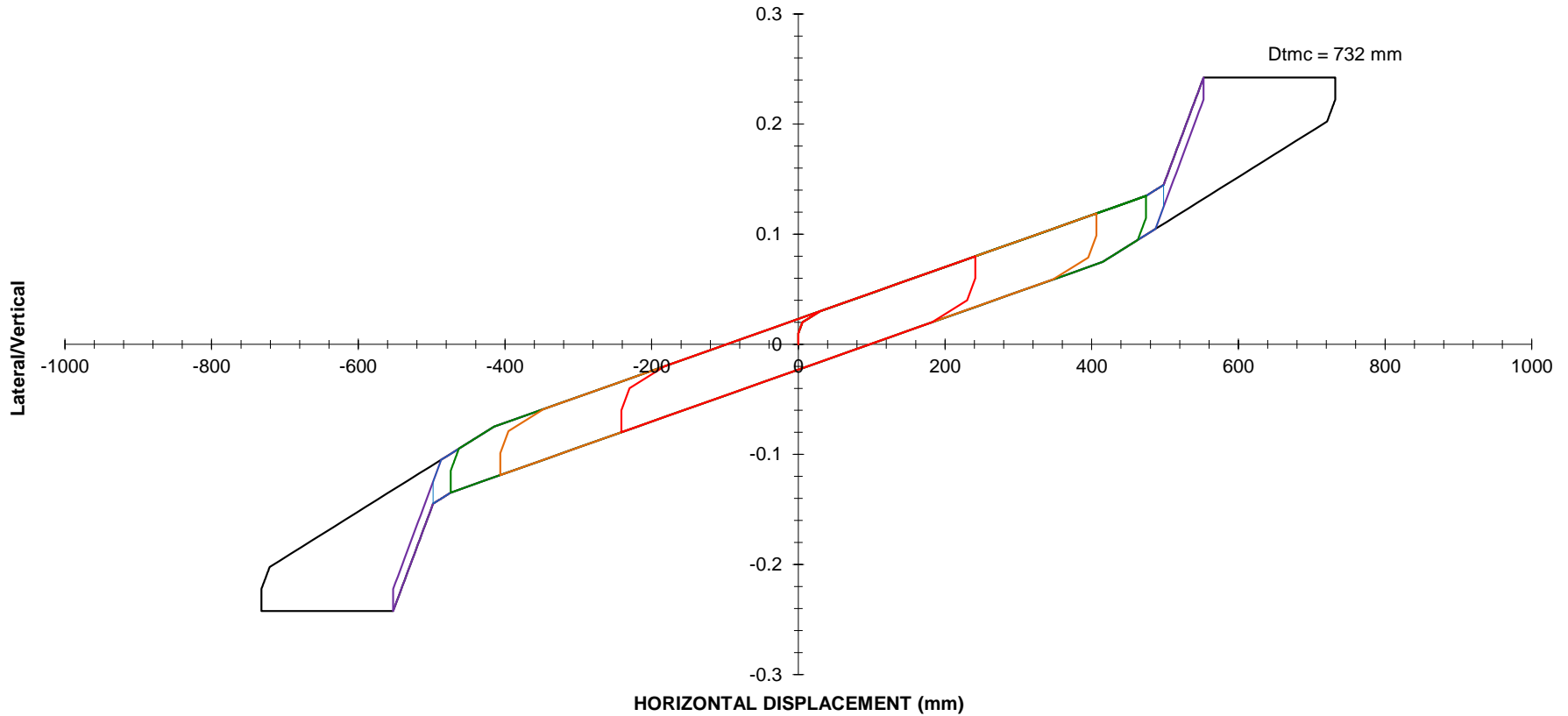
Triple Pendulum, Double Pendulum, and Friction Pendulum™ seismic isolation bearings are patented products of Earthquake Protection Systems, protected under: US Patent 8,484,911 B2; US Patent 6,820,380 B2; US Patent 6,688,051 B2; and various patents issued by other countries.

Friction Pendulum™ is a registered seismic isolator trade mark belonging to Earthquake Protection Systems.

All seismic isolation system designs, product information, drawings, and specifications which are not available in the public domain are Earthquake Protection System’s proprietary information (“Proprietary Information”). The Copyright to EPS drawings, specifications, isolation system designs, and Proprietary Information, is the sole property of Earthquake Protection Systems. Project specific isolation system designs and engineering support are provided to structural design professionals for the sole and limited purpose of specifying the EPS isolators in the construction specifications. Limited rights are granted to reproduce EPS bearing drawings and specifications in project construction specifications, provided the bearing drawings and specifications are reproduced in their entirety exactly as provided by EPS. Any other uses of EPS information or engineering support require written permission from EPS. EPS offers to supply isolators during construction at the specified prices are dependent on the bearing drawings and specifications being reproduced in the construction documents their entirety exactly as provided by EPS.

FPT8836/16-14/11-6

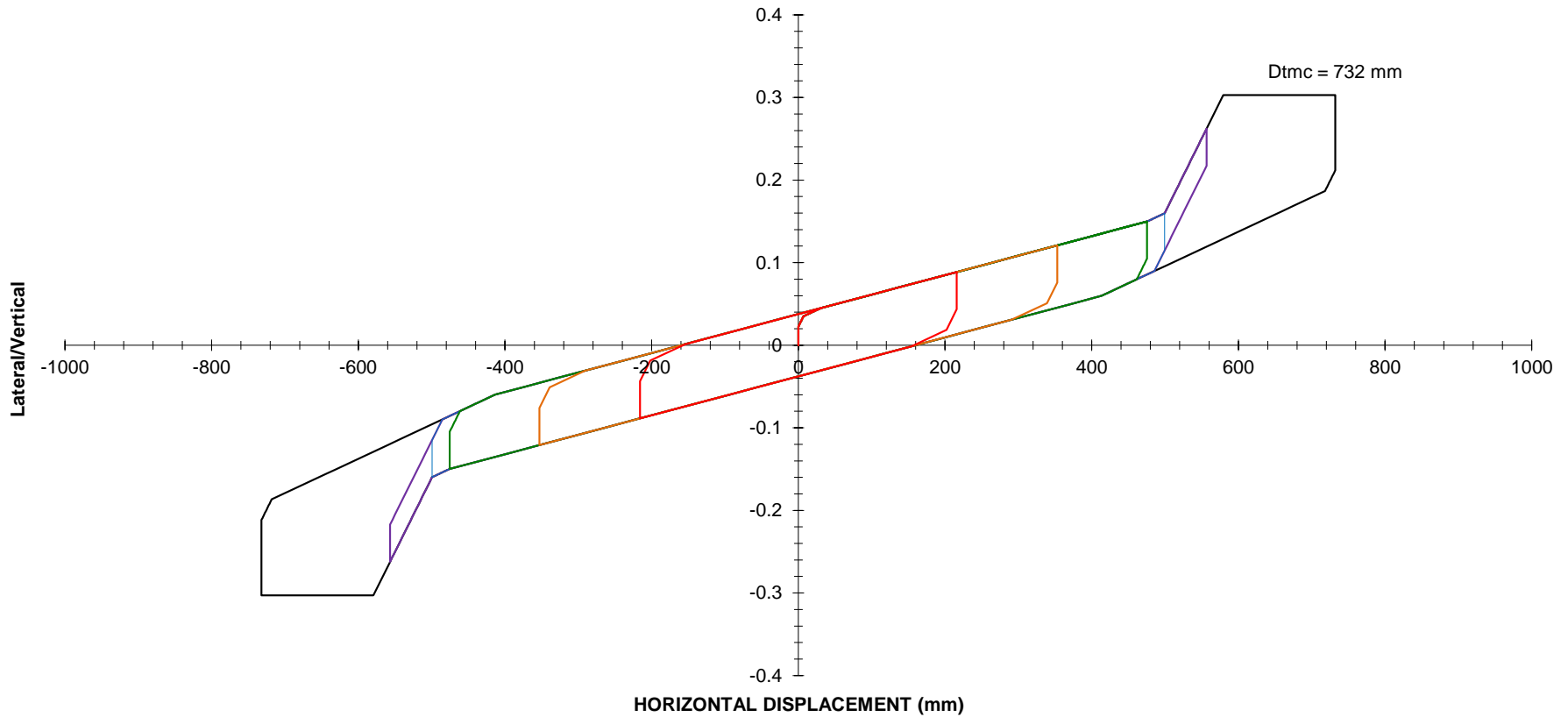
Lower Bound Properties at the Quality Control Test Vertical Load: 1834 kN



	f1	f2	f3	L1 (mm)	L2 (mm)	L3 (mm)	D (mm)	EDC(W)	F(kn/kn)	Teff (sec.)	Damping	Keff(kn/mm/kn)
DBE	0.010	0.020	0.030	559	2400	4242	241	21	0.0799	3.485	0.177	0.000331
MCE	0.010	0.020	0.030	559	2400	4242	406	37	0.1188	3.709	0.121	0.000292
First Loop	0.010	0.020	0.030	559	2400	4242	474	43	0.1348	3.761	0.107	0.000284
Second Loop	0.010	0.020	0.030	559	2400	4242	498	45	0.1448	3.720	0.098	0.000291
Third Loop	0.010	0.020	0.030	559	2400	4242	553	47	0.2423	3.029	0.056	0.000439
Stage 5 Yield	0.010	0.020	0.030	559	2400	4242	732	162	0.2423	3.486	0.255	0.000331

FPT8836/16-14/11-6

Upper Bound Properties at the Quality Control Test Vertical Load: 1834 kN



	f1	f2	f3	L1 (mm)	L2 (mm)	L3 (mm)	D (mm)	EDC(W)	F(kn/kn)	Teff (sec.)	Damping	Keff(kn/mm/kn)
DBE	0.023	0.035	0.045	559	2400	4242	216	32	0.0886	3.131	0.263	0.000410
MCE	0.023	0.035	0.045	559	2400	4242	353	52	0.1209	3.427	0.195	0.000343
First Loop	0.023	0.035	0.045	559	2400	4242	475	71	0.1498	3.573	0.158	0.000315
Second Loop	0.023	0.035	0.045	559	2400	4242	499	74	0.1598	3.546	0.147	0.000320
Third Loop	0.023	0.035	0.045	559	2400	4242	557	79	0.2623	2.922	0.086	0.000471
Stage 5 Yield	0.023	0.035	0.045	559	2400	4242	732	216	0.3029	3.118	0.248	0.000414

ASCE 7 17.5 Isolator Displacement And Shear Calculations

Average Bearing: FPT8836/16-14/11-6

Frictions	f1	f2	f3	Pendulum Lengths	
Upper bound	0.023	0.035	0.045	L1	559 mm
				L2	2400 mm
Lower Bound	0.010	0.020	0.030	L3	4242 mm

DBE Response

Assume Dd = 216 mm
 Teff 3.13 sec
 Fd 0.089 W
 Damping 26%

DBE Design Spectra Response
 Teff 3.13 sec.
 Sa 0.145 g
 Vd = Sa/Bd = 0.088 W

Upper Bound Frictions

Bd = 1.65
 AASHTO Equation
 Bd = (Damping/0.05)^0.3
 Similar to Table 17.5-1
 ASCE 7-16
 <= Fd = 0.089 W OK

Comparison of Table 17.5-1 to Eq. Bd = (Damping/0.05)^0.3

Table 17.5-1 Damping Coefficient, Bd and Bm

Effective Damping	Bd or Bm	(Dam/0.05)^0.3
2%	0.80	0.76
5%	1.00	1.00
10%	1.20	1.23
20%	1.50	1.52
30%	1.70	1.71
40%	1.90	1.87
50%	2.00	2.00

MCE Response

Assume Dm = 406 mm
 Teff 3.71 sec
 Fm 0.119 W
 Damping 12%

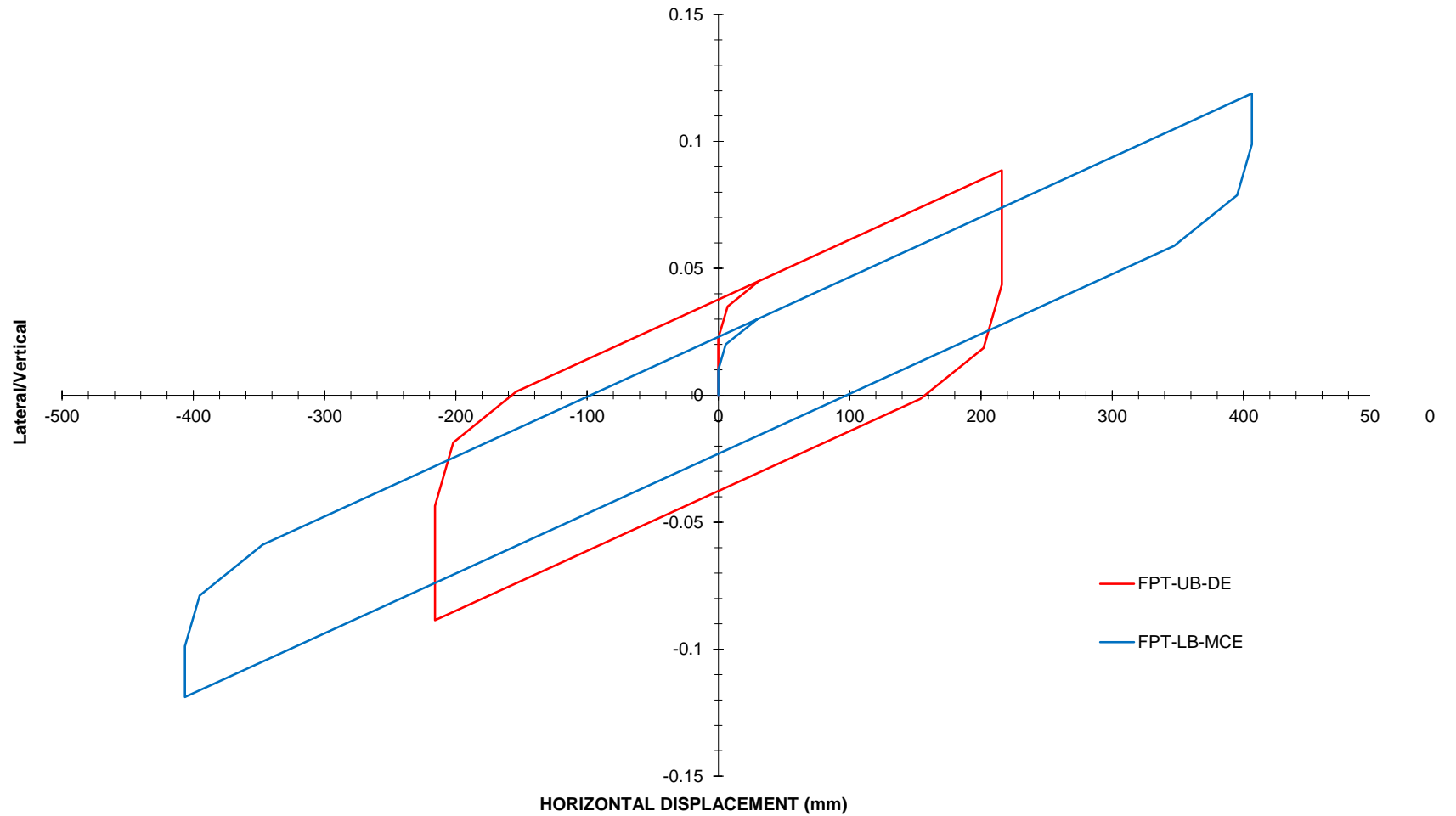
MCE Design Spectra Response
 Teff 3.71 sec.
 Sa 0.155 g
 Vm = Sa/Bm = 0.119 W

Lower Bound Frictions

Bm = 1.30
 AASHTO Equation
 Bm = (Damping/0.05)^0.3
 Similar to Table 17.5-1
 ASCE 7-16
 ~ Fm = 0.119 W OK

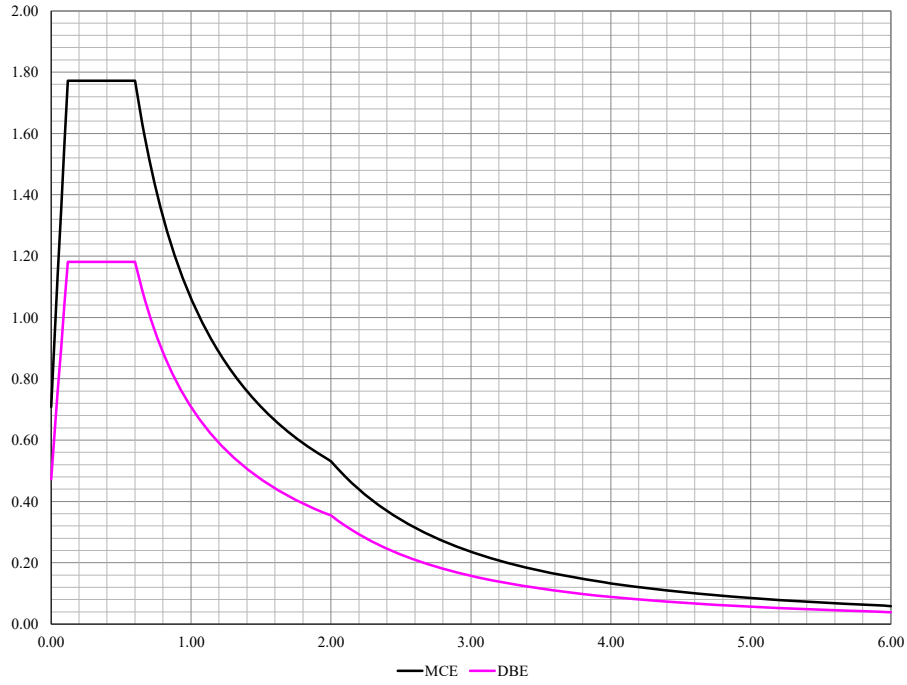
FPT8836/16-14/11-6

Average Triple Pendulum Properties at Quality Control Test Load: 1834 kN



Properties	f1	f2	f3	L1 (mm.)	L2 (mm.)	L3 (mm.)	D (mm.)	Shear(W)	Teff (sec.)	Damping	Keff(kN/mm/kN)
Upper Bound DBE	0.0225	0.035	0.045	559	2400	4241.8	216	0.089	3.13	0.263	0.000410
Lower Bound MCE	0.01	0.02	0.03	559	2400	4241.8	406	0.119	3.71	0.121	0.000292

Design Spectra



Tm (Sec.)	Sm (G's)	Td (Sec.)	Sd (G's)
0.00	0.709	0.00	0.473
0.02	0.921	0.02	0.614
0.05	1.134	0.05	0.756
0.07	1.347	0.07	0.898
0.10	1.559	0.10	1.040
0.12	1.772	0.12	1.181
0.22	1.772	0.22	1.181
0.31	1.772	0.31	1.181
0.41	1.772	0.41	1.181
0.50	1.772	0.50	1.181
0.60	1.772	0.60	1.181
0.65	1.636	0.65	1.090
0.70	1.519	0.70	1.013
0.75	1.418	0.75	0.945
0.80	1.329	0.80	0.886
0.85	1.251	0.85	0.834
0.90	1.181	0.90	0.788
0.95	1.119	0.95	0.746
1.00	1.063	1.00	0.709
1.05	1.013	1.05	0.675
1.10	0.966	1.10	0.644
1.15	0.924	1.15	0.616
1.20	0.886	1.20	0.591
1.25	0.851	1.25	0.567
1.30	0.818	1.30	0.545
1.35	0.788	1.35	0.525
1.40	0.759	1.40	0.506
1.45	0.733	1.45	0.489
1.50	0.709	1.50	0.473
1.55	0.686	1.55	0.457
1.60	0.664	1.60	0.443
1.65	0.644	1.65	0.430
1.70	0.625	1.70	0.417
1.75	0.608	1.75	0.405
1.80	0.591	1.80	0.394
1.85	0.575	1.85	0.383
1.90	0.560	1.90	0.373
1.95	0.545	1.95	0.363
2.00	0.532	2.00	0.354
2.05	0.506	2.05	0.337
2.10	0.482	2.10	0.321
2.15	0.460	2.15	0.307
2.20	0.439	2.20	0.293
2.25	0.420	2.25	0.280
2.30	0.402	2.30	0.268
2.35	0.385	2.35	0.257
2.40	0.369	2.40	0.246
2.45	0.354	2.45	0.236
2.50	0.340	2.50	0.227
2.55	0.327	2.55	0.218
2.60	0.315	2.60	0.210
2.65	0.303	2.65	0.202
2.70	0.292	2.70	0.194
2.75	0.281	2.75	0.187
2.80	0.271	2.80	0.181
2.85	0.262	2.85	0.175
2.90	0.253	2.90	0.169
2.95	0.244	2.95	0.163
3.00	0.236	3.00	0.158
3.05	0.229	3.05	0.152
3.10	0.221	3.10	0.148
3.15	0.214	3.15	0.143
3.20	0.208	3.20	0.138
3.25	0.201	3.25	0.134
3.30	0.195	3.30	0.130
3.35	0.189	3.35	0.126
3.40	0.184	3.40	0.123
3.45	0.179	3.45	0.119
3.50	0.174	3.50	0.116
3.55	0.169	3.55	0.112
3.60	0.164	3.60	0.109
3.65	0.160	3.65	0.106
3.70	0.155	3.70	0.104
3.75	0.151	3.75	0.101
3.80	0.147	3.80	0.098
3.85	0.143	3.85	0.096
3.90	0.140	3.90	0.093
3.95	0.136	3.95	0.091
4.00	0.133	4.00	0.089
4.05	0.130	4.05	0.086
4.10	0.126	4.10	0.084
4.15	0.123	4.15	0.082
4.20	0.121	4.20	0.080
4.25	0.118	4.25	0.078
4.30	0.115	4.30	0.077
4.35	0.112	4.35	0.075
4.40	0.110	4.40	0.073
4.45	0.107	4.45	0.072
4.50	0.105	4.50	0.070
4.55	0.103	4.55	0.068
4.60	0.100	4.60	0.067
4.65	0.098	4.65	0.066
4.70	0.096	4.70	0.064
4.75	0.094	4.75	0.063
4.80	0.092	4.80	0.062
4.85	0.090	4.85	0.060
4.90	0.089	4.90	0.059
4.95	0.087	4.95	0.058
5.00	0.085	5.00	0.057

COMMERCIAL TERMS AND CONDITIONS

2/24/21

Isolator Manufacture and Testing: EPS isolators are designed, manufactured and tested in accordance with ISO 9001:2015 “Design and Manufacture of Seismic Isolation Bearings”, as certified by the ISO 9001 Registrar. The ISO 9001 specifications and the EPS isolator drawings, specifications, and testing as specified in the EPS reports and Offer, are the only specifications and requirements that apply to the EPS isolator engineering, manufacture, and testing. Dynamic Quality Control Tests are performed for each isolator. Comprehensive Dynamic Property Tests are performed for two prototype isolators of each model. When engaged to supply isolators designed by the Structure Design Professional, EPS provides an Isolator Engineering and Test Report signed and stamped by a California Professional Engineer, accepting professional responsibility that the as-manufactured isolators have the materials, manufacturing, capacities and properties specified in the Offer by EPS. The Buyer and owner, and their consultants, are responsible to verify that the isolator load and displacement demands do not exceed the capacities specified by EPS. The Total Price includes standard technical support as normally provided by EPS engineers working at the EPS facility. The isolator assemblies include temporary shipping plates attached to the isolator. Shipping plates must be removed after the structure is complete. Except as specifically itemized and included, the Offer does not include the design or supply of any structure connection hardware or bolts, plates above or below the isolators, shim plates, sole plates, or grout. Prototype isolators are the property of EPS. Buyer is encouraged to observe isolator testing as an opportunity to learn about the EPS seismic engineering and isolator systems. Buyers may not specify manufacture or testing details, nor interfere with standard EPS procedures. Buyer’s inspection authority is limited to citing specific non-conformance with the specifications in the Offer.

Professional Responsibilities: When EPS is engaged as the Seismic Isolation Engineer as defined by the *Continued Functionality Standard “CFS”*, <https://goo.gl/h82Fnk> EPS designs, manufactures, and tests the isolators, and specifies seismic resiliency requirements and seismic movement details for the structure and architectural components, as required to limit damage to the Platinum, Gold, or Silver Functionality Level selected. EPS then submits a Seismic Isolation Engineering Report signed and stamped by a California Professional Engineer, accepting professional, commercial, and legal responsibility for the seismic performance of the isolators, and also the seismic performance of the architectural components and structure provided the EPS recommendations have been followed. To achieve the specified resiliency level, the Structure Design Professional and architectural consultants, construction contractor, and facility owner, are jointly responsible to implement the EPS recommendations for the architectural components and structure. The Buyer and owner, and their consultants, are responsible to design and construct the facility including adequate isolator connection details, and structure strengths, as required to accommodate all structure, environmental, and seismic loadings and displacements according to applicable codes; and for the proper installation and use of the isolators in accordance with EPS installation and maintenance recommendations. When EPS is not engaged as the Seismic Isolation Engineer, then the Structure Design Professional, architect, contractor, Buyer, owner, and their consultants are collectively responsible for the seismic performance of the facility. EPS is then specifically excluded from responsibility or liability for the seismic performance of the facility, except for damage directly and primarily caused by failure of the isolators to have the capacities and properties as specified in the signed and stamped EPS Isolator Engineering and Test Report.

EPS Proprietary Isolator Systems: EPS is engaged in the development, design, manufacture, and testing of Triple Pendulum and Friction Pendulum™ Isolators, which are patented, proprietary, and trademarked products of EPS. The isolation system design, isolator details, drawings, specifications, and related information as provided by EPS to the Buyer, Owner, and Owner’s consultants are “EPS Proprietary Information” and shall be used only for the application named herein, and with the restriction that the manufacture of the isolators is to be done exclusively by EPS. The EPS Proprietary Information shall remain the property of EPS, with limited rights as granted to Buyer, Owner, and Owner’s consultants to use the Proprietary Information only for the application specified. Buyer, Owner, and Owner’s consultants shall exercise due care to safeguard all EPS Proprietary Information from unauthorized access.

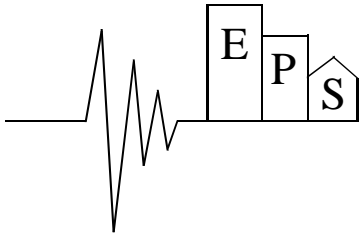
General Business Terms: Standard business practice according to the Uniform Commercial Code, UCC NCCUSL, shall apply for all matters not specified herein. If Buyer’s written acceptance without changes and Payment 1 is not received by EPS within 14 days of the Offer date, EPS reserves the right to modify the price, schedule and terms, or withdraw the offer. The ready-to-ship dates are based on the scope, terms and conditions as specified in the Offer,

and will be extended for any changes requested by Buyer, or actions by Buyer that delay EPS. For any changes in the scope or requirements, EPS will evaluate the impact on cost and ready-to-ship schedule and advise the Buyer prior to proceeding with the changes. Changes to the scope of work or requirements, and non-customary support services, and support that requires EPS to work away from the EPS facility, will be paid for as additional services according to the EPS Standard Charges. Payments are due within 14 days of the invoice date, according to the payment schedule, whether or not isolators are needed for construction. The ready-to-ship dates will be extended one day for each day a payment to EPS is late. If a payment is more than 14 days late, the Buyer shall pay late payment penalties at the rate of one percent (1%) per month of the outstanding balance, for each month or fraction thereof for which the payment is late. Isolators will be ready to ship within 7 days after receipt of payment due upon submission of the QC test results. Isolators will not be released for shipment until all applicable payments have been received by EPS. When EPS is engaged to provide shipping or delivery services by third parties, EPS is not responsible for any delay in shipment. If the purchase is canceled by Buyer for reasons not directly and primarily caused by EPS's failure to perform, Buyer shall pay EPS the percentage of the Total Price equal to the percentage of completion of isolator manufacture at the time of cancellation.

Charges for late performance by EPS are not applicable unless the average ready-to-ship date is more than 14 days late, and EPS failure to perform was the sole contributor to the construction delay. Late performance charges claimed against EPS shall not exceed 2% of the Total Price for each week the average ready-to-ship date is late, up to a maximum of 30% of the Total Price. Late charges will not be claimed against EPS due to any delays caused by common carrier shippers, custom clearance, natural disasters, fires, strikes, acts of war or terrorism, or any government actions that delay EPS's work or delivery. If a payment to EPS is more than 6 months overdue, all work in progress shall be considered abandoned and the title and ownership shall transfer to EPS, and EPS shall have no further obligations to deliver any products or services.

This Offer may be accepted by signing the Buyer's Acceptance, or making a payment specified herein, either of which constitutes a binding Contract for the entire subject matter herein and supersedes any and all prior oral or written offers, discussions, negotiations, representations, understandings or agreements among the parties. No other terms or conditions shall be binding without written acceptance by both EPS and Buyer. When the EPS products or services are named in any purchase order issued by the Buyer, the terms and conditions herein shall be the sole provisions applicable to EPS's products or services sold. The Buyer is responsible to comply with its obligations under this agreement, and when the EPS products or services are sold to a third party, the Buyer is responsible to limit EPS's obligations and liabilities as specified herein. The laws of the State of California will govern any disputes regarding this agreement and the products and services provided. The applicable courts located in the County of Solano shall have exclusive jurisdiction over any dispute concerning this agreement or the EPS products or services provided. In the event that any legal action arises out of this Commercial Offer or the products or services provided by EPS, the prevailing party shall be entitled to recover from the other its reasonable attorney's fees and costs of suit.

LIABILITIES: SHOULD THE EPS PRODUCTS OR SERVICES BE SOLD OR ASSIGNED BY THE BUYER TO A THIRD PARTY, THE BUYER ASSUMES SOLE RESPONSIBILITY TO TRANSFER ALL CONTRACT LIMITATIONS HEREIN TO SAID THIRD PARTY, INCLUDING LIABILITY AND WARRANTY LIMITATIONS. THE BUYER ALSO AGREES TO INDEMNIFY, DEFEND AND HOLD HARMLESS EPS FROM ANY CLAIMS BY SAID THIRD PARTIES WHICH EXTEND BEYOND THE LIMITATIONS OF LIABILITIES AND RESPONSIBILITIES OF EPS AS SPECIFIED HEREIN. FOR ANY AND ALL DAMAGES CLAIMED AGAINST EPS FOR NEGLIGENCE, DEFECTIVE PRODUCTS, PROFESSIONAL LIABILITY, FAILURE TO PERFORM, OR ANY OTHER REASON WHATSOEVER, THE TOTAL CUMULATIVE CLAIMS SHALL BE LIMITED TO A MAXIMUM EQUAL TO THE TOTAL PRICE AS SPECIFIED HEREIN. UNDER NO CIRCUMSTANCES SHALL EPS BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY NATURE WHATSOEVER INCLUDING WITHOUT LIMITATION, LOST PROFIT OR REVENUE. UNDER NO CIRCUMSTANCES SHALL ANY OFFICER, ENGINEER, OR EMPLOYEE OF EPS BE HELD PERSONALLY LIABLE FOR ANY WORK PERFORMED IN RELATION TO THIS AGREEMENT, WHETHER OR NOT SUCH CLAIMS ARE BASED IN CONTRACT OR TORT OR UPON ANY OTHER LEGAL THEORY.



Earthquake Protection Systems, Inc.

451 Azuar Drive, Bldg. 759, Mare Island, Vallejo, California 94592
Tel: (707) 644-5993 Fax: (707) 644-5995

TEN YEAR WARRANTY

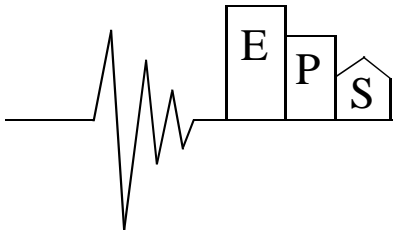
Earthquake Protection Systems (“EPS”) warrants the Friction Pendulum bearings (“Bearings”) against defects in materials and workmanship under the normal use and service for which they were designed for the full period of 120 months from the date of shipment to Buyer. This warranty is limited to correcting defects in materials and workmanship, which materially affect the Bearing’s ability to perform its intended function in accordance with the Bearing Specifications provided herein. For any Bearing determined to be outside the warranted performance, EPS shall, at its sole expense and option, either recondition or replace the Bearing or components to be within the Bearing Property Specifications for new bearings.

For any bearing warranty work, Owner or Buyer shall be responsible for Bearing removal, reinstallation, and freight to and from EPS’s facility, including all associated costs of these items. For any Bearing found to be within the warranted performance, Owner or Buyer shall be responsible for all related costs incurred by EPS including testing, inspection, freight, handling, repair, and reconditioning.

This warranty does not cover cosmetic defects or changes, paint chipping or peeling, damage caused by installation or construction, fire or accidental damage, abuse, neglect, overloads, or failure of Contractor, Buyer or Owner to install and maintain Bearings according to EPS recommended procedures. Any obligation under this warranty terminates if the Bearings are modified or directly exposed to fire. In such instances, Owner may reactivate the warranty by hiring EPS to inspect all Bearings and for Owner to pay EPS to recondition or replace any Bearing that is deemed required. In no case shall the warranty period be extended beyond the period listed above, whether or not a Bearing is replaced or reconditioned by EPS.

DISCLAIMER OF WARRANTIES

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED, IMPLIED, WRITTEN, OR ORAL, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS AND IS PROVIDED IN LIEU OF ALL OBLIGATIONS AND LIABILITIES OF SELLER WITH RESPECT TO DEFECTS IN MATERIALS OR WORKMANSHIP. THE RIGHTS AND REMEDIES CONTAINED IN THIS WARRANTY CONSTITUTE THE OWNER’S, CONTRACTOR’S, OR BUYER’S SOLE RECOURSE TO EPS FOR COSTS AND EXPENSES TO CURE DEFECTS IN THE BEARINGS. THIS WARRANTY EXCLUDES AND WAIVES ANY RIGHT TO BUYER TO CONSEQUENTIAL OR INCIDENTAL DAMAGES.



Earthquake Protection Systems, Inc.

451 Azuar Drive, Bldg. 759, Mare Island, Vallejo, California 94592

Tel: (707) 644-5993 Fax: (707) 644-5995

Standard Rates and Charges

Upon receiving requests for additional work or changes from the EPS offer terms, EPS will advise Buyer what additional charges would apply before proceeding with the changes. Additional work and changes will be charged at the following rates:

Man-Hour Rates for Engineering, Manufacturing, and Administrative services are as follows:

Principal Engineer	\$300/hour
Senior Engineer	\$250/hour
Engineer	\$225/hour
Shop Supervisors	\$180/hour
Senior Specialist Technicians	\$175/hour
QC and Office Services and Documentation	\$150/hour
Machinists	\$140/hour
Welders	\$130/hour
Shop Laborer	\$110/hour

Overtime work is charged at 30% above the specified standard rates. Charges for required materials, tooling, and outsourced services will be at cost plus 50% overhead charges. Inspection and services provided away from EPS facilities will be at the above rates plus reimbursement of airfare at cost, plus \$500/day for hotel, local transportation, and meal expenses.

Bearing testing is charged at a per day rate for each day of testing, test setup, and test system occupation. Test system daily rates, include test setup labor, test operators, and engineering as required for test specification, test setup, data reduction, test reporting, and engineering support regarding testing. Test System rates are:

Real Time, 15 million lbs. Capacity Test System	\$4,500/day
Low-Speed, 2 million lbs. Capacity Test System	\$1,500/day

Extended warranties of up to 50 years may be purchased prior to bearing shipments. Extended warranties are charged at ½ % of the Total Price for each year the warranty is extended.

Charges for accelerating the ready-to-ship dates shall be a ½ % increase in bearing price for each 1% reduction in the ready-to-ship schedule. Charges for storing bearings shall be ½ % of the bearing prices for each month bearings are stored beyond 3 months after the bearings are ready-to-ship.

Review of customer purchase terms and conditions, technical specifications, and construction plans and documents, shall be at the above rates, plus costs of legal review and outsourced service charges.

A CONTINUACIÓN: LA TRADUCCIÓN DE LA OFERTA COMERCIAL CON PROPÓSITO REFERENCIAL; LA VERSIÓN EN INGLÉS ES LA QUE GOBIERNA LEGALMENTE

OFERTA COMERCIAL PARA LA MANUFACTURA, PRUEBAS Y ENVÍO DE AISLADORES TRIPLE PÉNDULO PARA EL HOSPITAL SAUL GARRIDO EN TUMBES, PERÚ

Earthquake Protection Systems Perú y su representada Earthquake Protection Systems, Vallejo – California, USA (“EPS”) ofrece la manufactura, pruebas y envío al lugar de construcción de 18 aisladores Triple Péndulo FPT8836/16-14/11-6, 139 FPT8831/12-12/8-5 y 1256 anclajes con perno (kits de conexión) para el Hospital Saúl Garrido, Perú por un precio total de entrega de USD \$2,371,000, incluye impuesto IGV.

El precio total de entrega incluye los siguientes trabajos:

- Reporte de pruebas de los aisladores firmado por un profesional Ingeniero registrado de California.
- Pruebas de propiedades dinámicas de 2 aisladores prototipo FPT8836/16-14/11-6.
- Pruebas de control de calidad dinámicas de 161 aisladores, incluyendo 4 aisladores prototipo
- Manufactura y suministro de 157 aisladores para instalación
- Manufactura y suministro de 1256 anclajes de 3”x11” con pernos de 1.5” de diámetro
- Experiencia y soporte técnico de la Ingeniería de EPS al contratista y supervisor de obra
- Envío de 157 aisladores y 1256 anclajes en contenedores desde la fábrica de EPS hasta el puerto de Callao en Perú
- Importación y agente de aduana en Perú
- Envío de 157 aisladores y 1256 kits de conexión desde el Puerto de Callao al lugar de construcción en Perú

El precio total no incluye lo siguiente:

- Descarga de los contenedores en el lugar de construcción
- Instalación de los aisladores

Reporte de Ingeniería y Pruebas: EPS enviará un Reporte de Ingeniería y Pruebas de los aisladores sellado y firmado, y reportes individuales de pruebas de control de calidad de los aisladores, asumiendo responsabilidad profesional de la ingeniería, que los aisladores tienen los materiales, fabricación,

capacidades y propiedades como se especifica aqui. El informe incluirá las pruebas de propiedades dinámicas y control de calidad como se especifica en esta oferta.

Fabricación y Pruebas: Las pruebas de propiedades dinámicas y de control de calidad estarán de acuerdo con el Estándar de Aislamiento Sísmico. <https://goo.gl/h82Fnk>.

Envío de los Aisladores: Los aisladores serán manufacturados, ensayados y listos para cargar en contenedores de envío; con 50 aisladores en 12 semanas después de recibido el pago 1 y 50 aisladores por semana hasta completar los 157 aisladores. Los aisladores se espera arriven al lugar de construcción 12 semanas después de recibido el pago 2.

Los aisladores serán empacados para su manejo y descarga mediante un montacarga. El comprador debe descargar los contenedores en el lugar de construcción dentro de 2 horas de arribo, tal que puedan retornar al puerto.

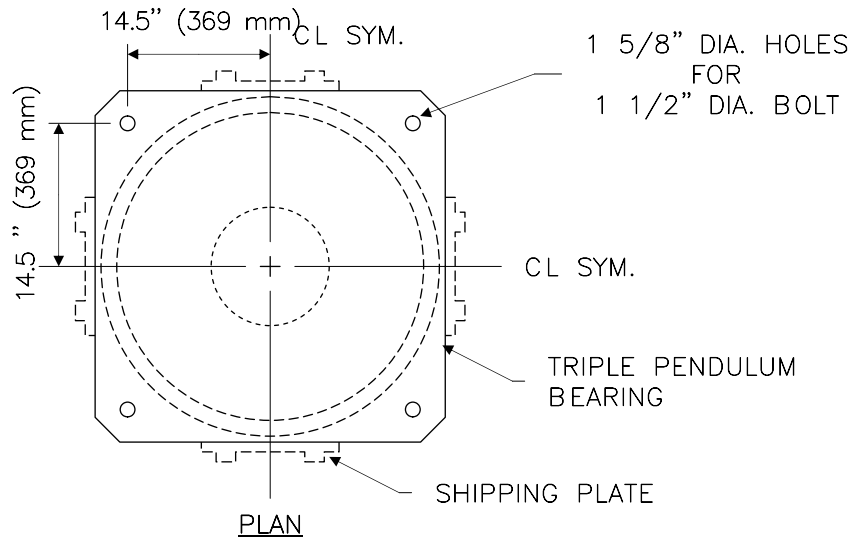
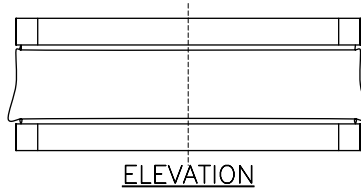
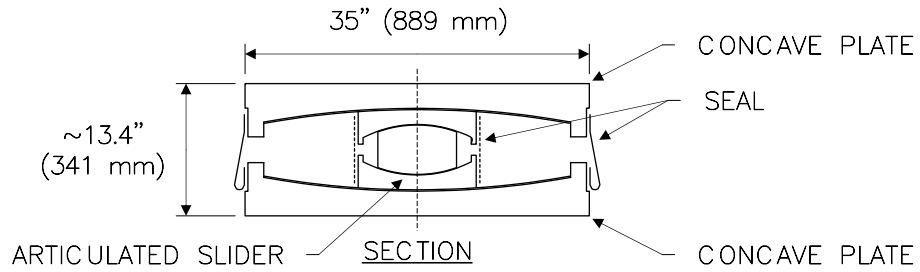
Cronograma de Pagos

1er Pago: US\$ 474,000 una vez aceptada la oferta comercial por el comprador

2do Pago: US\$ 1,897,000 una vez presentada cada prueba de control de calidad de los aisladores.

El pago 2 deberá ser recibido por EPS antes que los aisladores sean cargados en los contenedores.

Para términos legales, depósitos, términos y condiciones comerciales, garantía, tarifas y cargos estandarizados del aislador; el contrato legal es la versión en inglés de la Oferta Comercial: *“Commercial Offer for the Manufacture, Test and Shipping of Triple Pendulum Bearings for Saul Garrido Hospital in Tumbes, Perú.*



TOLERANCES:

1. PLAN AND HEIGHT DIMENSIONS AND TOLERANCES TO DEFINED IN TEST REPORT.
2. BOLT HOLE DIMENSIONS $\pm 1/16"$

ESTIMATED WEIGHT:
2280 lbs

TRIPLE PENDULUM BEARING

BEARING: FPT8831/12-12/8-5

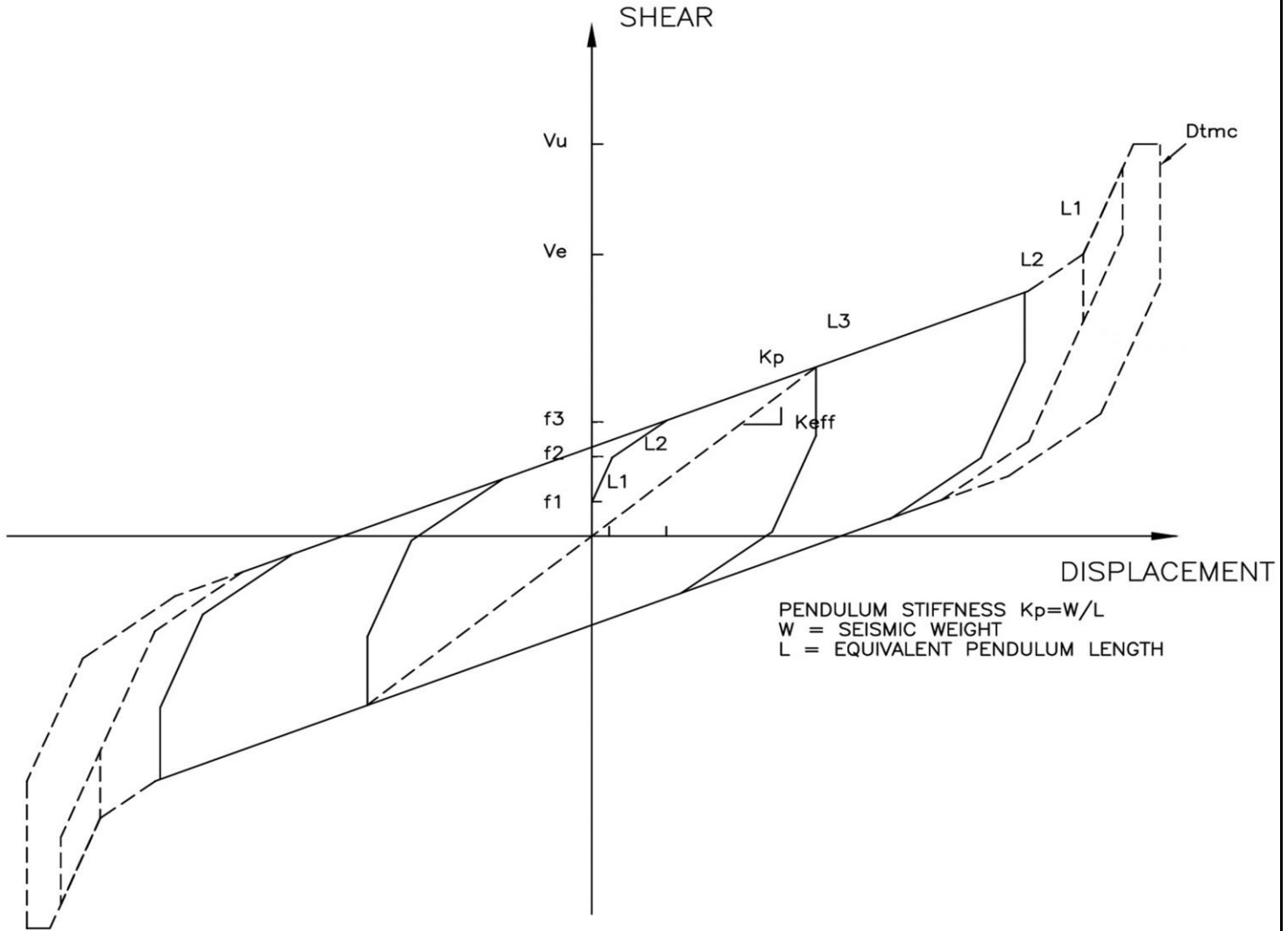
COPYRIGHT EARTHQUAKE PROTECTION SYSTEMS 2013

**EARTHQUAKE PROTECTION SYSTEMS
VALLEJO, CALIFORNIA (707) 644-5993**

DRAWING NOT TO SCALE

DATE: 30/05/2022

FPT8831/12-12/8-5



FORCE DISPLACEMENT LOOP
AT QUALITY CONTROL TEST VERTICAL LOAD

DYNAMIC FRICTION PROPERTIES

AT QC LOAD: 372.5774 kips (1657 kN)

	f1	f2	f3
LOWER	0.01	0.02	0.03
UPPER	0.02	0.03	0.04

PENDULUM LENGTHS

- L1=19"(483mm)
- L2=94"(2375mm)
- L3=168"(4267mm)

DISPLACEMENT CAPACITIES

- Dtmc=26.6"(677mm)
- Dmc=17.7"(451mm)

PENDULUM PERIODS

- T1=1.4sec
- T2=3.1sec
- T3=4.1sec

FORCE DISPLACEMENT LOOP (NOT TO SCALE)

TRIPLE PENDULUM BEARING

FPT8831/12-12/8-5

COPYRIGHT EARTHQUAKE PROTECTION SYSTEMS 2013

EARTHQUAKE PROTECTION SYSTEMS

VALLEJO, CALIFORNIA (707) 644-5993

DRAWING NOT TO SCALE **DATE** **30/05/2022**

FPT8831/12-12/8-5A

Seismic Isolator Specifications

May 30, 2022

The structure incorporating these isolators has been designed to reduce seismic damage and provide higher safety from collapse, as compared to structures designed to comply with the minimum requirements of the structure design code. This structure, and its intended seismic performance, is designed specifically for the properties and capacities of the Triple Pendulum Seismic Isolators as specified herein. These isolators were designed, specified, manufactured, and tested specifically to satisfy the specific seismic performance requirements of this structure. The Structural Engineer has reviewed, qualified and approved these isolators by this manufacturer for installation in this structure. These seismic isolators are manufactured and tested in accordance with the ISO 9001 materials and manufacturing standards of Earthquake Protection Systems, Vallejo California. www.EarthquakeProtection.com

The Contractor may propose alternate isolators having equal or better properties, capacities, reliability, and seismic damage reduction, as proven through equal product testing and analyses. Alternate isolators must be ISO 9001 manufactured products qualified in accordance with the **“Seismic Isolation Standard for Continued Functionality”** <https://goo.gl/h82Fnk>. Alternate manufacturers must demonstrate equal or better manufacturer's qualifications, seismic isolation engineering expertise, and product qualification testing in accordance with this Standard. Alternate isolators and manufacturers must be approved in writing by the Structural Engineer prior to submitting any construction bid based on alternates. Alternate isolators and manufacturers that do not comply with the Seismic Isolation Standard for Continued Functionality are not acceptable. The construction bid, and the isolators installed in the construction must be as specified herein, unless the Structural Engineer has provided written approval for alternates prior to bid. Costs to evaluate and approve alternates, and associated delay impacts, and any seismic damage that may result from using alternates, are the sole responsibility of the Contractor.

FPT8831/12-12/8-5 Bearing Specifications

(Copyright Earthquake Protection Systems)

Bearing Rated Capacities:

For ASCE7 Category IV Structure, System 2 SISCF isolator, with MCE Spectral Acceleration at 4 seconds: 0.13g

Recommended Maximum Average Vertical Load, Avg. (D+0.5Lr): 373 kips (1657 kN) min;

Recommended Maximum Vertical Load, Max (D+L) : 1004 kips (4467 kN) min;

Rated Lateral Displacement Capacities (min.): $D_{tmc} = \pm 26.6$ in. (675 mm); $D_{mc} = \pm 17.7$ in. (449 mm);

Rated Shear Load Capacities (min): Ultimate shear load capacity not less than 89 kips (396kN), simultaneous with a vertical load not less than 373 kips (1659kN);

Rated Rotation capacity: Under an imposed $2\pm$ angular rotation of the top bearing surface relative to the bottom surface, about any Cartesian axis of rotation, the bearing must elastically support the combined listed Elastic Vertical and Elastic Shear Load Capacities.

Factored Load Capacities on Concrete: When the bearing is supported on 4000 psi (28 Mpa) confined concrete, the permissible vertical structure loads on the bearings meeting ACI 318-08 Section 10.14 are:

$P_u = (1.2D + 1.6L) = 1400$ kips (6228 kN); $P_u = (1.2D + 0.5RL + E) = 1910$ kips (8496 kN) at 17.7" (449 mm)

displacement. Buyer is responsible to ensure that the application's demands are within the bearing capacities; and for the adequacy of the structure, connections, seismic loadings, seismic movement gaps; and for compliance with all construction document, design, and code requirements, as applicable to the use of the bearings.

Vertical Strength Capacities (min): Elastic 2010 kips (8939 kN) min; Ultimate 3014 kips (13409 kN) min.

FPT8831/12-12/8-5 Bearing Specifications

Materials: The bearing liner materials on the sliders shall be a non-metallic, self-sacrificing liner type, and provide the properties as specified herein. The bearing liner shall provide satisfactory performance for energy dissipation rate, heat resistance, and properties during all bearing tests herein, and meet the acceptance criteria as specified. The bearing liner material shall have a compressive strength capacity of at least 80 ksi. The material of the concave plates and slider components shall be ASTM A536, A576, A572, A108 or A36. The concave spherical surfaces of the concave plates shall be ASTM A240, Grade 304 stainless steel. The seals shall be an ethylene propylene (EPDM) material. Exposed metal surfaces of the bearing shall be blasted to SSPC/SP-6, and painted with zinc rich primer and urethane finish coat, minimum 5 mils DFT (excludes top and bottom bearing surfaces).

Manufacture: The bearing design, capacities, properties, materials, manufacture, and testing and quality control shall be in conformance with this specification and the International Standards Organization ISO9001:2015 Quality Control Program requirements for the “Design and Manufacture of Seismic Isolation Bearings” as approved under a current Certificate of Registration issued by the Orion Registrar. The EPS drawings and specifications are the only drawings, specifications, and requirements that apply to the manufacture, testing, and supply of EPS bearings. Construction document drawings and specifications do not apply to the materials, manufacture, or testing of EPS bearings.

Quality Control Tests: Real Time Quality Control tests will be performed on 100% of bearings in accordance with all requirements of the ISO9001:2015 Quality Control Program, and the “*Seismic Isolation Standard for Continued Functionality*” <https://goo.gl/h82Fnk>. The friction values obtained from the cyclic test of each individual bearing shall be within the specified individual bearing values. The average friction value obtained from the cyclic tests of all bearings shall be within the specified average bearing values. Report the effective stiffness and damping for the average of the 3 cycles.

Product Patents, Trade Marks, Proprietary Information, and Copyrights:

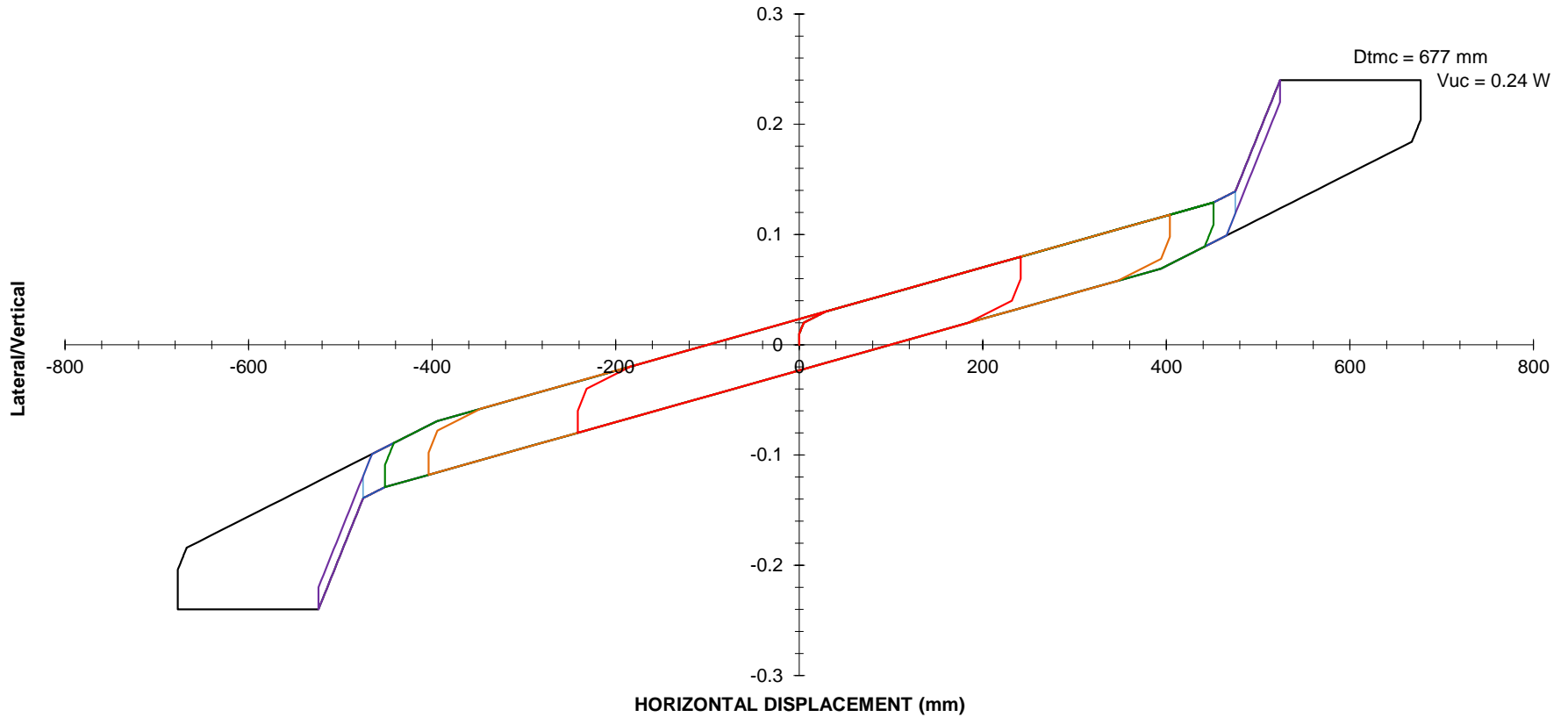
Triple Pendulum, Double Pendulum, and Friction Pendulum™ seismic isolation bearings are patented products of Earthquake Protection Systems, protected under: US Patent 8,484,911 B2; US Patent 6,820,380 B2; US Patent 6,688,051 B2; and various patents issued by other countries.

Friction Pendulum™ is a registered seismic isolator trade mark belonging to Earthquake Protection Systems.

All seismic isolation system designs, product information, drawings, and specifications which are not available in the public domain are Earthquake Protection System’s proprietary information (“Proprietary Information”). The Copyright to EPS drawings, specifications, isolation system designs, and Proprietary Information, is the sole property of Earthquake Protection Systems. Project specific isolation system designs and engineering support are provided to structural design professionals for the sole and limited purpose of specifying the EPS isolators in the construction specifications. Limited rights are granted to reproduce EPS bearing drawings and specifications in project construction specifications, provided the bearing drawings and specifications are reproduced in their entirety exactly as provided by EPS. Any other uses of EPS information or engineering support require written permission from EPS. EPS offers to supply isolators during construction at the specified prices are dependent on the bearing drawings and specifications being reproduced in the construction documents their entirety exactly as provided by EPS.

FPT8831/12-12/8-5

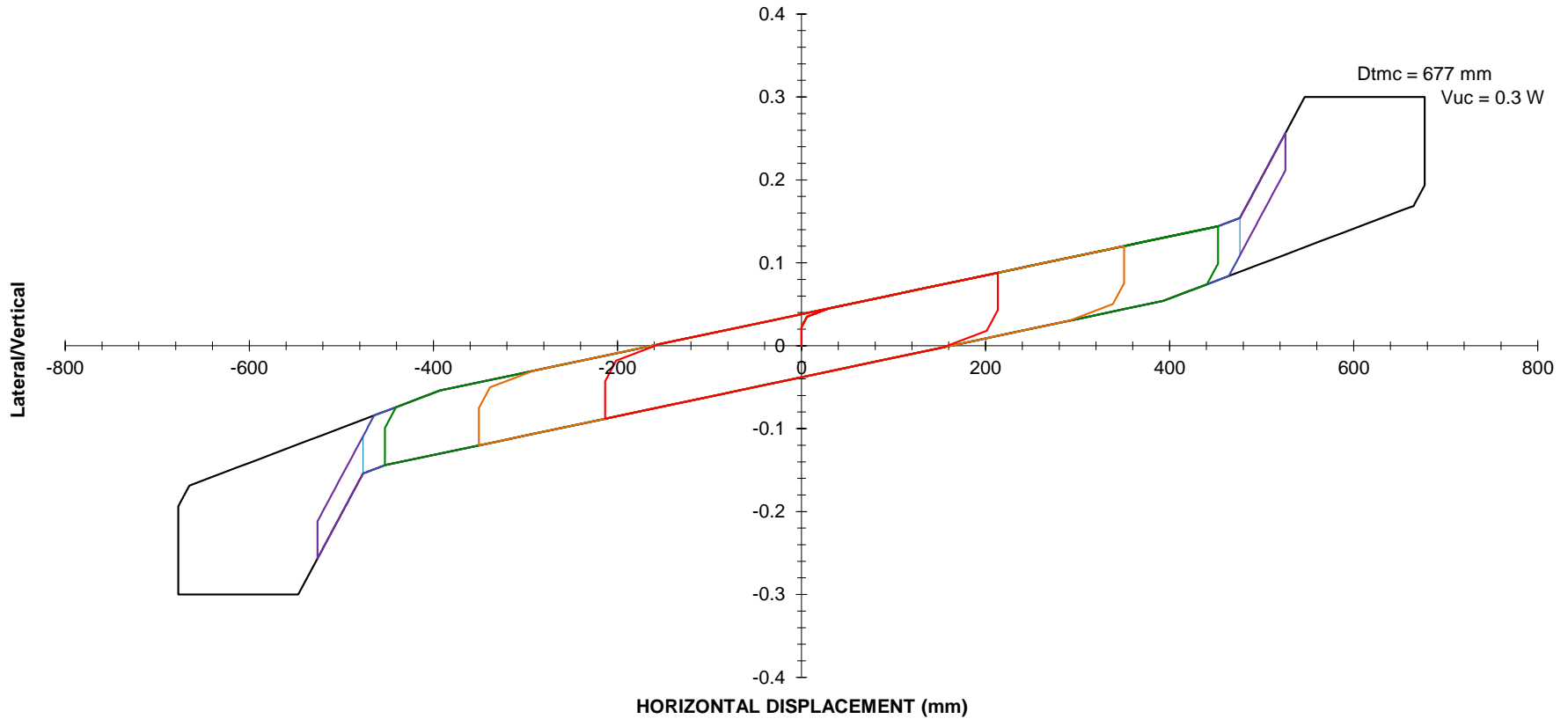
Lower Bound Properties at the Quality Control Test Vertical Load: 1657 kN



	f1	f2	f3	L1 (mm)	L2 (mm)	L3 (mm)	D (mm)	EDC(W)	F(kn/kn)	Teff (sec.)	Damping	Keff(kn/mm/kn)
DBE	0.010	0.020	0.030	483	2375	4267	241	22	0.0799	3.486	0.180	0.000331
MCE	0.010	0.020	0.030	483	2375	4267	404	37	0.1179	3.711	0.123	0.000292
First Loop	0.010	0.020	0.030	483	2375	4267	451	41	0.1291	3.751	0.113	0.000286
Second Loop	0.010	0.020	0.030	483	2375	4267	475	43	0.1391	3.707	0.104	0.000293
Third Loop	0.010	0.020	0.030	483	2375	4267	524	45	0.2400	2.963	0.057	0.000458
Stage 5 Yield	0.010	0.020	0.030	483	2375	4267	677	144	0.2400	3.369	0.236	0.000354

FPT8831/12-12/8-5

Upper Bound Properties at the Quality Control Test Vertical Load: 1657 kN



	f1	f2	f3	L1 (mm)	L2 (mm)	L3 (mm)	D (mm)	EDC(W)	F(kn/kn)	Teff (sec.)	Damping	Keff(kn/mm/kn)
DBE	0.023	0.035	0.045	483	2375	4267	213	32	0.0880	3.123	0.267	0.000413
MCE	0.023	0.035	0.045	483	2375	4267	351	52	0.1202	3.425	0.198	0.000343
First Loop	0.023	0.035	0.045	483	2375	4267	453	68	0.1441	3.555	0.166	0.000318
Second Loop	0.023	0.035	0.045	483	2375	4267	476	71	0.1541	3.526	0.154	0.000323
Third Loop	0.023	0.035	0.045	483	2375	4267	526	75	0.2566	2.871	0.089	0.000488
Stage 5 Yield	0.023	0.035	0.045	483	2375	4267	677	194	0.3000	3.013	0.233	0.000443

ASCE 7 17.5 Isolator Displacement And Shear Calculations

Average Bearing: FPT8831/12-12/8-5

Frictions	f1	f2	f3	Pendulum Lengths	
Upper bound	0.023	0.035	0.045	L1	483 mm
				L2	2375 mm
Lower Bound	0.010	0.020	0.030	L3	4267 mm

DBE Response

Assume Dd = 213 mm
 Teff 3.12 sec
 Fd 0.088 W
 Damping 27%

DBE Design Spectra Response
 Teff 3.12 sec.
 Sa 0.145 g
 Vd = Sa/Bd = 0.088 W

Upper Bound Frictions

Bd = 1.65

AASHTO Equation
 Bd = (Damping/0.05)^0.3
 Similar to Table 17.5-1
 ASCE 7-16

< = Fd = 0.088 W OK

Comparison of Table 17.5-1 to Eq. Bd = (Damping/0.05)^0.3

Table 17.5-1 Damping Coefficient, Bd and Bm

Effective Damping	Bd or Bm	(Dam/0.05)^0.3
2%	0.80	0.76
5%	1.00	1.00
10%	1.20	1.23
20%	1.50	1.52
30%	1.70	1.71
40%	1.90	1.87
50%	2.00	2.00

MCE Response

Assume Dm = 404 mm
 Teff 3.71 sec
 Fm 0.118 W
 Damping 12%

MCE Design Spectra Response
 Teff 3.71 sec.
 Sa 0.154 g
 Vm = Sa/Bm = 0.118 W

Lower Bound Frictions

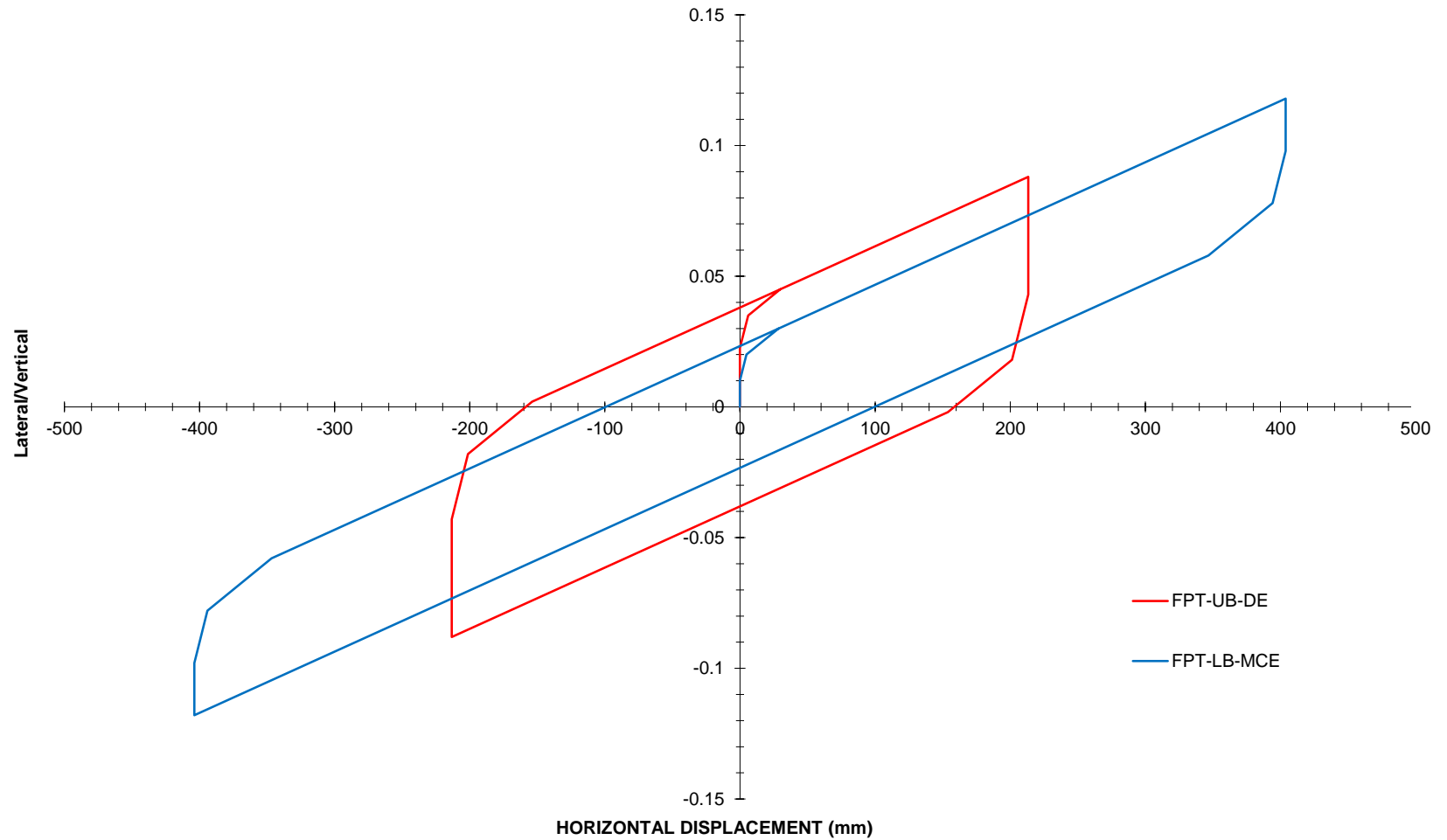
Bm = 1.31

AASHTO Equation
 Bm = (Damping/0.05)^0.3
 Similar to Table 17.5-1
 ASCE 7-16

~ Fm = 0.118 W OK

FPT8831/12-12/8-5

Average Triple Pendulum Properties at Quality Control Test Load: 1657 kN



Properties	f1	f2	f3	L1 (mm.)	L2 (mm.)	L3 (mm.)	D (mm.)	Shear(W)	Teff (sec.)	Damping	Keff(kN/mm/kN)
Upper Bound DBE	0.0225	0.035	0.045	483	2375	4267.2	213	0.088	3.12	0.267	0.000413
Lower Bound MCE	0.01	0.02	0.03	483	2375	4267.2	404	0.118	3.71	0.123	0.000292

Fabricación y Ensayo de Aisladores: Los aisladores de EPS están diseñados, fabricados y probados de acuerdo con la norma ISO 9001: 2015 “Diseño y fabricación de aisladores sísmicos”, según lo certificado por un Registrador ISO 9001. Las especificaciones ISO 9001 y los dibujos, especificaciones y pruebas del aislador de EPS, tal como se especifica en los informes y la Oferta de EPS, son las únicas especificaciones y requisitos que se aplican a la ingeniería, fabricación y prueba del aislador EPS. Se realizan pruebas de control de calidad dinámico para cada aislador. Se realizan pruebas completas de propiedades dinámicas para dos prototipos de aisladores de cada modelo. Cuando se contrata para suministrar aisladores diseñados por el profesional de diseño de estructuras, EPS proporciona un informe de prueba e ingeniería de aisladores firmado y sellado por un ingeniero profesional de California, aceptando la responsabilidad profesional de que los aisladores tal como se fabrican tienen los materiales, fabricación, capacidades y propiedades especificadas en el Oferta por EPS. El Comprador y propietario, y sus consultores, son responsables de verificar que las demandas de carga y desplazamiento del aislador no excedan las capacidades especificadas por EPS. El precio total incluye el soporte técnico estándar que normalmente proporcionan los ingenieros de EPS que trabajan en las instalaciones de EPS. Los aisladores incluyen placas de envío temporales unidas al aislador. Las placas de envío deben retirarse después de que la estructura esté completa. Excepto según se detalla e incluya específicamente, la Oferta no incluye el diseño o suministro de ningún hardware o pernos de conexión de estructura, placas por encima o por debajo de los aisladores, placas de calce, placas de base o lechada. Los aisladores prototipo son propiedad de EPS. Se alienta al comprador a observar las pruebas de aisladores como una oportunidad para aprender sobre la ingeniería sísmica de EPS y los sistemas de aisladores. Los compradores no pueden especificar detalles de fabricación o prueba, ni interferir con los procedimientos estándar de EPS. La autoridad de inspección del Comprador se limita a citar una no conformidad específica con las especificaciones de la Oferta.

Responsabilidad Profesional: Cuando EPS está contratado como ingeniero de aislamiento sísmico según lo define el Estándar de aislamiento sísmico para la funcionalidad continua "SISCF", EPS diseña, fabrica y prueba los aisladores y especifica los requisitos de resistencia sísmica y los detalles del movimiento sísmico para la estructura y la arquitectura. componentes, según se requiera para lograr la confiabilidad de limitar el daño al nivel especificado aplicable a la Categoría de estructura. <https://goo.gl/h82Fnk>. EPS luego envía un Informe de Ingeniería de Aislamiento Sísmico firmado y sellado por un Ingeniero Profesional de California, aceptando responsabilidad profesional, comercial y legal por el desempeño sísmico de los aisladores, y también el desempeño sísmico de la arquitectura. componentes y estructura siempre que se hayan seguido las recomendaciones de la EPS. Para lograr el nivel de resiliencia especificado, el profesional de diseño de estructuras y los consultores de arquitectura, el contratista de construcción y el propietario de la instalación son conjuntamente responsables de implementar las recomendaciones de EPS para los componentes arquitectónicos y la estructura. El Comprador y el propietario, y sus consultores, son responsables de diseñar y construir la instalación, incluidos los detalles adecuados de conexión del aislador y las resistencias de la estructura, según se requiera para acomodar todas las cargas y desplazamientos estructurales, ambientales y sísmicos de acuerdo con los códigos aplicables; y para la instalación y el uso adecuados de los aisladores de acuerdo con las recomendaciones de instalación y mantenimiento de EPS. Cuando EPS no está contratado como ingeniero de aislamiento sísmico, el profesional de diseño de estructuras, el arquitecto, el contratista, el comprador, el propietario y sus consultores son colectivamente responsables del rendimiento sísmico de la instalación. Entonces, EPS está específicamente excluido de la responsabilidad por el desempeño sísmico de la instalación, excepto por los daños causados directa y principalmente por la falla de los aisladores para tener las capacidades y propiedades especificadas en el Informe de prueba e ingeniería de aisladores de EPS firmado y sellado.

Sistema de aisladores patentados de EPS: EPS se dedica al desarrollo, diseño, fabricación y prueba de aisladores de péndulo triple y Péndulo de FricciónTM, que son productos patentados y marca comercial de EPS. El diseño del sistema de aislamiento, los detalles del aislador, los dibujos, las especificaciones y la información relacionada proporcionada por EPS al Comprador, Propietario y los consultores del Propietario son "Información de propiedad de EPS" y se utilizarán únicamente para la aplicación mencionada en este documento, y con la restricción de que la fabricación de los aisladores debe ser realizada exclusivamente por EPS. La información patentada de EPS seguirá siendo propiedad de EPS, con derechos limitados otorgados al comprador, propietario y consultores del propietario para utilizar la información patentada solo para la aplicación especificada. El Comprador, el Propietario y los consultores del Propietario deberán ejercer el debido cuidado para salvaguardar toda la Información patentada de EPS de acceso no autorizado.

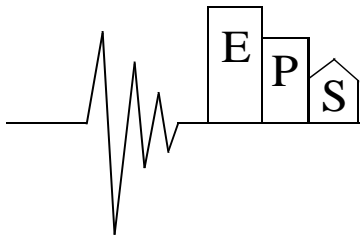
Términos Comerciales Generales: La práctica comercial estándar de acuerdo con el Código Comercial Uniforme, UCC NCCUSL, se aplicará para todos los asuntos no especificados en este documento. Si EPS no recibe la aceptación por escrito del Comprador sin cambios y el Pago 1 dentro de los 14 días posteriores a la fecha de la Oferta, EPS se reserva el derecho de modificar el precio, el cronograma y los términos, o retirar la oferta. Las fechas listas para el envío se basan en el alcance, los términos y condiciones especificados en la Oferta, y se extenderán para cualquier cambio solicitado por el Comprador o acciones del Comprador que retrasen a EPS. Para cualquier cambio en el alcance o los requisitos, EPS evaluará el impacto en el costo y el cronograma listo para enviar y avisará al Comprador antes de proceder con los cambios. Los cambios en el alcance del trabajo o los requisitos, y los servicios de apoyo no habituales, y el apoyo que requiere que EPS trabaje fuera de las instalaciones de EPS, se pagarán como servicios adicionales de acuerdo con los Cargos estándar de EPS. Los pagos vencen dentro de los 14 días posteriores a la fecha de la factura, de acuerdo con el calendario de pagos, ya sea que se necesiten o no aisladores para la construcción. Las fechas listas para enviar se extenderán un día por cada día que se atrase un pago a EPS. Si un pago tiene más de 14 días de atraso, el Comprador deberá pagar multas por pago atrasado a una tasa del uno por ciento (1%) mensual del saldo pendiente, por cada mes o fracción del mismo por el cual el pago se atrasa. Los aisladores estarán listos para enviarse dentro de los 7 días posteriores a la recepción del pago debido al envío de los resultados de la prueba de control de calidad. Los aisladores no se entregarán para su envío hasta que EPS haya recibido todos los pagos correspondientes. Cuando EPS se compromete a proporcionar servicios de envío o entrega por parte de terceros, EPS no es responsable de ningún retraso en el envío. Si el Comprador cancela la compra por razones no causadas directa y principalmente por el incumplimiento de EPS, el Comprador pagará a EPS el porcentaje del Precio Total igual al porcentaje de finalización de la fabricación del aislador en el momento de la cancelación.

Los cargos por desempeño tardío por parte de EPS no son aplicables a menos que la fecha promedio de listo para enviar sea más de 14 días de retraso, y el incumplimiento de EPS fue el único factor que contribuyó al retraso en la construcción. Los cargos por desempeño tardío reclamados contra EPS no excederán el 2% del Precio total por cada semana en la que la fecha promedio de listo para enviar se atrase, hasta un máximo del 30% del Precio total. No se reclamarán cargos por mora a EPS debido a demoras causadas por transportistas de transporte público, despacho de aduana, desastres naturales, incendios, huelgas, actos, guerra o terrorismo, o cualquier acción gubernamental que retrase el trabajo o la entrega de EPS. Si un pago a EPS tiene más de 6 meses de atraso, todo el trabajo en progreso se considerará abandonado y el título y la propiedad se transferirán a EPS, y EPS no tendrá más obligaciones de entregar ningún producto o servicio.

Esta Oferta puede ser aceptada firmando la Aceptación del Comprador o realizando un pago especificado en el presente, cualquiera de los cuales constituye un Contrato vinculante para todo el tema del presente y reemplaza todas y cada una de las ofertas, discusiones, negociaciones, representaciones, entendimientos o acuerdos entre las partes. Ningún otro término o condición será vinculante sin la aceptación por escrito de EPS y el Comprador. Cuando los productos o servicios de EPS se mencionan en cualquier orden de compra emitida por el Comprador, los términos y condiciones del presente serán las únicas disposiciones aplicables a los productos o servicios vendidos de EPS. El Comprador es responsable de cumplir con sus obligaciones

bajo este acuerdo, y cuando los productos o servicios de EPS se venden a un tercero, el Comprador es responsable de limitar las obligaciones y responsabilidades de EPS como se especifica en este documento. Las leyes del estado de California regirán cualquier disputa relacionada con este acuerdo y los productos y servicios proporcionados. Los tribunales correspondientes ubicados en el condado de Solano tendrán jurisdicción exclusiva sobre cualquier disputa relacionada con este acuerdo o los productos o servicios de EPS proporcionados. En caso de que surja cualquier acción legal de esta Oferta Comercial o de los productos o servicios proporcionados por EPS, la parte ganadora tendrá derecho a recuperar de la otra parte los honorarios razonables de abogado y los costos de la demanda.

RESPONSABILIDADES: SI EL COMPRADOR VENDE O ASIGNA LOS PRODUCTOS O SERVICIOS DE EPS A UN TERCERO, EL COMPRADOR ASUME LA ÚNICA RESPONSABILIDAD DE TRANSFERIR TODAS LAS LIMITACIONES DEL CONTRATO AQUÍ A DICHO TERCERO, INCLUYENDO LAS LIMITACIONES DE RESPONSABILIDAD Y GARANTÍA. EL COMPRADOR TAMBIÉN ACEPTA INDEMNIZAR, DEFENDER Y MANTENER SEGURO A EPS DE CUALQUIER RECLAMO DE DICHS TERCEROS QUE SE EXTENDAN MÁS ALLÁ DE LAS LIMITACIONES DE RESPONSABILIDADES Y RESPONSABILIDADES DE EPS COMO SE ESPECIFICA AQUÍ. POR CUALQUIER Y TODOS LOS DAÑOS RECLAMADOS CONTRA EPS POR NEGLIGENCIA, PRODUCTOS DEFECTUOSOS, RESPONSABILIDAD PROFESIONAL, INCUMPLIMIENTO O CUALQUIER OTRA RAZÓN, EL TOTAL DE RECLAMOS ACUMULATIVOS SE LIMITARÁ A UN MÁXIMO IGUAL AL PRECIO TOTAL COMO SE ESPECIFICA AQUÍ. BAJO NINGUNA CIRCUNSTANCIA EPS SERÁ RESPONSABLE DE CUALQUIER DAÑO INCIDENTAL O CONSECUENCIAL DE CUALQUIER NATURALEZA, INCLUYENDO SIN LIMITACIÓN, PÉRDIDA DE BENEFICIOS O INGRESOS. BAJO NINGUNA CIRCUNSTANCIA, NINGÚN FUNCIONARIO, INGENIERO O EMPLEADO DE EPS SERÁ RESPONSABLE PERSONALMENTE DE CUALQUIER TRABAJO REALIZADO EN RELACIÓN CON ESTE ACUERDO, YA SEA QUE DICHAS RECLAMACIONES ESTÉN BASADAS EN CONTRATO O AGRAVIO O EN CUALQUIER OTRA TEORÍA LEGAL.



Earthquake Protection Systems, Inc.

451 Azuar Drive, Bldg. 759, Mare Island, Vallejo, California 94592

Tel: (707) 644-5993 Fax: (707) 644-5995

DIEZ AÑOS DE GARANTIA

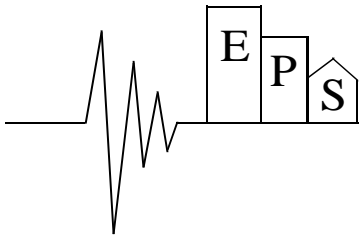
Earthquake Protection Systems (“EPS”) garantiza los aisladores de péndulo de fricción (“Aisladores”) y con anclajes de corte con pernos contra defectos en los materiales y mano de obra conforme al normal uso y servicio para los cuales fueron diseñados por un periodo de 120 meses desde la fecha de envío al Comprador. Esta garantía se limita a corregir defectos en los materiales y mano de obra que afecten el comportamiento de los aisladores de acuerdo con las especificaciones del aislador descritas en este documento. Cualquier aislador cuyo desempeño se determine se encuentra fuera de lo garantizado, EPS, con costo exclusivamente a su cargo se encargará de reacondicionar o reemplazar el aislador o cualquiera de los componentes para que se ajustena con las propiedades específicas para aislador nuevos.

Para cualquier trabajo de la garantía, el Propietario o Comprador será responsable de remover, reinstalar y transportar los aisladores hacia y desde las instalaciones de EPS, incluidos todos los gastos asociados a estos artículos. En el caso de que una vez realizadas las pruebas se evidencie que los aisladores tenían las propiedades especificadas, el Propietario o el Comprador se hará responsable de todos los gastos asociados de EPS, incluidos los ensayos, inspección, envío, manejo, reparación o reacondicionamiento.

Esta garantía no cubre daños por defectos superficiales, descamación de la pintura, daños causados por la instalación o construcción, daños por accidentes o incendios, abuso, negligencia, sobrecargas o daños causados por el Contratista, Comprador o Propietario al instalar y mantener los aisladores de acuerdo con los procedimientos recomendados por EPS. Cualquier obligación que incluya esta garantía se terminará si los aisladores son modificados o directamente expuestos al fuego. En tales circunstancias, el Comprador o el Propietario puede reactivar la garantía contratando a EPS para la inspección de todos los aisladores, y el Propietario pagará a EPS el reacondicionamiento o reemplazo de los aisladores que sean necesarios. En ningún caso el periodo de la garantía será extendido más allá del indicado en este documento, así sea reemplazado o reacondicionado por EPS.

EXCLUSIÓN DE LA GARANTÍA

ESTA GARANTÍA REEMPLAZA A CUALQUIER OTRA GARANTÍA, EMITIDA EN FORMA EXPRESA, IMPLÍCITA, ESCRITA U ORAL, INCLUYENDO PERO NO LIMITANDO A CUALQUIER GARANTÍA O COMERCIALIZACIÓN O APTITUD Y SE PROPORCIONA EN SUSTITUCIÓN DE TODAS LAS OBLIGACIONES Y RESPONSABILIDADES DEL VENDEDOR CON RESPECTO A DEFECTOS EN MATERIALES Y MANO DE OBRA. LOS DERECHOS Y OBLIGACIONES DE ESTA GARANTÍA CONSTITUYEN PARA EL PROPIETARIO, CONTRATISTA, O EL COMPRADOR EL ÚNICO RECURSO SOBRE EPS RESPECTO A LOS COSTOS Y GASTOS PARA SUBSANAR LOS DEFECTOS EN LOS AISLADORES. ESTA GARANTIA EXCLUYE CUALQUIER DERECHO DEL COMPRADOR POR DAÑOS O PERJUICIOS FORTUITOS O IMPREVISTOS.



Earthquake Protection Systems, Inc.

451 Azuar Drive, Bldg. 759, Mare Island, Vallejo, California 94592

Tel: (707) 644-5993 Fax: (707) 644-5995

Tarifas y cargos Estándar

Al recibir solicitudes de trabajo adicional o cambios de los términos de la oferta de EPS, EPS le informará al Comprador qué cargos adicionales se aplicarían antes de continuar con los cambios. El trabajo adicional y los cambios se cobrarán a las siguientes tarifas:

Las tarifas por hora-hombre para servicios de ingeniería, fabricación y administrativos son las siguientes:

Ingeniero principal	\$ 300/hora
Ingeniero sénior	\$ 250/hora
Ingeniero	\$ 225/hora
Supervisores de tienda	\$ 180/hora
Técnicos especialistas sénior	\$ 175/hora
QC y servicios de oficina y documentación	\$ 150/hora
Maquinistas	\$ 140/hora
Soldadores	\$ 130/hora
Trabajador de taller	\$ 110/hora

Las horas extraordinarias se cobran al 30% por encima de las tarifas estándar especificadas. Los cargos por materiales requeridos, herramientas y servicios subcontratados serán al costo más 50% de gastos generales. La inspección y los servicios prestados fuera de las instalaciones de la EPS se realizarán a las tarifas anteriores más el reembolso de la tarifa aérea al costo, más \$ 500/día para gastos de hotel, transporte local y comidas.

Las pruebas de aisladores se cobran a una tarifa por día por cada día de prueba, configuración de prueba y ocupación del sistema de prueba. Las tarifas diarias del sistema de prueba incluyen mano de obra de configuración de prueba, operadores de prueba e ingeniería según sea necesario para la especificación de prueba, configuración de prueba, reducción de datos, informes de prueba y soporte de ingeniería con respecto a las pruebas. Las tarifas del sistema de prueba son:

Tiempo real, 15 millones de libras. Capacidad del Sistema de prueba	\$ 4,500/día
Baja velocidad, 2 millones de libras. Capacidad de Sistema de prueba	\$ 1,500/día

Se pueden adquirir garantías extendidas de hasta 50 años antes de realizar envíos. Las garantías extendidas se cobran al ½% del precio total por cada año que se extiende la garantía.

Los cargos por acelerar las fechas de listo para enviar serán un ½% de aumento en el precio por cada 1% de reducción en el cronograma de listo para enviar. Los cargos por almacenar aisladores serán el ½% del precio de los aisladores por cada mes que los aisladores se almacenen más allá de 3 meses después de que los aisladores estén listos para su envío.

La revisión de los términos y condiciones de compra del cliente, las especificaciones técnicas y los planos y documentos de construcción se realizará según las tarifas anteriores, más los costos de revisión legal y los cargos por servicios subcontratados.