

GP 04-06-02	Supporting Structures and Foundations for Heavy Machinery	February 2002
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Supporting Structures and Foundations for Heavy Machinery

GP 04-06-02

Scope

- 1) [I] This Global Practice (GP) covers the design and testing of supporting structures and foundations for heavy machinery. Heavy machinery is any equipment having reciprocating or rotary masses as the major moving parts (such as compressors, pumps, engines, and turbines), and having a total weight greater than 5000 lbs (2270 kg).
 - 2) [I] An asterisk (*) indicates that additional information from the Owner, or approval by the Owner is required.
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1. Required References

- 1) [I] This Section lists Practices and Standards that are referenced and assumed to be a part of this document. Unless otherwise specified herein, use the latest edition.
- 2) [I] Local codes and standards may be substituted for the ones referenced herein provided the following provisions are met:
 - a) The resultant design meets the safety and serviceability criteria attained through this GP.
 - b) Substitution is accepted by the authorities where the facility is to be located and by the Owner's Engineer.

1.1. Global Practices–ExxonMobil Engineering Practices

GP 04-01-01	Concrete Design and Construction
GP 04-06-01	Reinforced Concrete Foundations, Anchor Bolts and Grout

2. Additional References

- 1) [I] The following Practices and Standards shall be used with this GP as applicable.
- 2) [I] Local codes and standards may be substituted for the ones referenced herein provided the following provisions are met:
 - a) The resultant design meets the safety and serviceability criteria attained through this GP.
 - b) Substitution is accepted by the authorities where the facility is to be located and by the Owner's Engineer.

2.1. ACI–American Concrete Institute

ACI 207.1R	Mass Concrete
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3. Design

3.1. General

- 1) [R] A dynamic analysis shall be performed on all foundations and structures supporting heavy machinery.
- 2) [R] Dynamic analysis shall be as follows:
 - a) For shallow foundations (slabs and mats), the response of the soil subject to dynamic loadings shall be based on "Elastic Half Space Model" theory.

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