

5 ELEMENTS MACHINE INSTALLATION



1 Foundation

Foundation transfers static and dynamic loads to the ground.

3x Should be at least **3x** mass of rotating equipment.

5x Should be at least **5x** mass of reciprocating equipment.

2 Anchoring

Secures the baseplate to the foundation.



GROUTING

Epoxy or cement.
Improves stabilization and reduces operational vibration.



FASTENING

Proper tightness and torquing of bolts ensures baseplates are installed as designed.

3 Isolation

Absorbs machine vibration and prevents its transmission to other equipment.



SPRINGS

Allow greater deflection for maximum vibration reduction.



PADS

Allow less deflection resulting in less noise and high frequency vibration.

4 Baseplate Level and Flat

Helps machine to operate balanced and minimizes machine frame distortion.

TOLERANCES (ANSI/ASA S2.75-2017)



LEVEL

Uses earth as the reference plane.

Up to 500HP:
≤ 10 mils/ft.
500HP or above:
≤ 5 mils/ft.



FLAT

Uses the surface as the reference plane.

Up to 500HP:
≤ 5 mils/ft.
500HP or above:
≤ 2 mils/ft.



COPLANAR

Uses one set of mounting pads as reference.

Up to 500HP:
≤ 2 mils
500HP or above:
≤ 2 mils



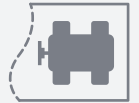
If machine baseplate is out of tolerance, correct it and remeasure.

5 Alignment

Minimizes vibration, load, and high temperatures. Keeps assets running longer.



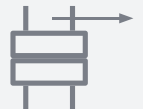
Install jacking bolts.



Ensure rotating machines are centered on the baseplate.



Place a minimum of 75 mils (thou) of shims under all machine feet.



Ensure all piping induces no stresses on machines.



Check coupling runout after installation.



Ensure all coupling bolts and set screws are torqued to spec.



2 mils (thou)

Minimize all residual soft foot.



Align machines to precision tolerances and proper targets.

ANSI/ASA S2.75-2017 is suggested.

Documentation

MM/DD/YY

Date of installation



Person completing the task



Description of the machine



Reference to the standard used



Acceptance criteria



Instruments used for measurement



As-found and as-left measurements



Parts used



Visual documentation



Appropriate signatures