

Concrete Trowel Handles

Problem:

Trowels used for concrete placement and finishing work have handles cause pressure points on the palm of the hand and wrist bending. This could lead to an overuse injury to the hand or arm.

One Solution:

Modify the shape of the handle to fit the hand better, decrease wrist bending and provide padding to eliminate the pressure point on the palm of the hand.



FACTORS:

- Many users hold the trowel in this fashion. There is concentrated pressure in the base of the palm of the hand. This pressure occurs near the carpal tunnel and may contribute to the risk of carpal tunnel syndrome.
- The angle of the handle causes side bending of the wrist (ulnar deviation).

FACTORS:

- Building up the handle of the trowel with “grip kit” material provides padding to help decrease the pressure point on the palm of the hand.
- The angle of the wrist is changed slightly to reduce risk of wrist or hand injury.

Concrete Trowel Handles

How Does the Modified Handle Work?

By building up the stem of the handle of the trowel, the “sharp” corner of the handle is rounded. This reduces the concentrated pressure on the palm of the hand. Also, the angle between the handle and the stem places the wrist at a more comfortable angle. The new angle reduces ulnar deviation of the wrist creating a more comfortable and less tiring grip. Cushioning will also be a benefit.

How to Modify a Trowel Handle

Buy material that can be wrapped around the stem of the trowel handle. Be careful to not create too much thickness on the inside of the handle. There is barely enough room for the knuckles to fit between the underside of the handle and the metal ridge on the trowel.

1. Ensure that the tool handle is clean and free from grease. Remove any old rubber or plastic covering. If necessary, clean the handle with an alcohol based solution.
2. Wrap the material around the handle to “soften” the corner on the handle.
3. Add enough padding to decrease wrist side bending when you hold the trowel. (be careful to not add too much! You should have plenty of space between your fingers and the top of the trowel.
4. You may need to use an industrial hot blower (or hair dryer) to apply heat to the covering to ensure good adhesion.

How Much Difference Does the Modified Handle Make?

Cement Masons whose primary work is to finish concrete say *****we’re still compiling the results.*

How Much Will it Cost and Where is it Available?

We used an “Orthex” Vibration and shock reducing “Grip Kit” #4713 for our trials. They cost around \$30 and are available from various vendors. “Grip kit” materials in one set should be adequate for wrapping several trowels.

AliMed Inc.
297 High Street
Dedham, Mass. 02026
800.225.2610
www.alimed.com



How Does the Modified Trowel Handle Affect Productivity?

Workers report that it is more comfortable with the padding.

Contact Information:

This Tip Sheet was sponsored by CPWR Agreement #1020-005-56. It was produced by Build It Smart, LSHFNA, LIUNA, AGC of Washington, The University of Washington, Western Washington Cement Masons Training Center and the StewartPrezant Ergonomics Group

Thanks to Rainier Floors!

Contact:
Build It Smart 360.596.9200
safetyhealth@aol.com