

Wear Materials Part I

With “Ceramics” in our logo the C.L. Smith Industrial Company name has become synonymous with alumina ceramic materials for fighting the toughest abrasive environments. Our wear resistant materials are offered in a variety of shapes, sizes and grades to fit almost any application and are available through shop installation, at your site by our field service crews or for purchase from our industry leading inventory program.

Choosing the “Right Material”

As a custom solutions provider choosing the “right material” is key and our product offerings allow for a wide variety of options to fit the most demanding environments. We provide components with ceramics, stainless steels, refractories, thermal sprays, wear compounds, UHMW and a variety of silicon carbides.

Alumina Ceramic

Second only to diamond in hardness (+9 Mohs) alumina ceramic provides outstanding wear resistance to erosion and corrosion problems in a variety of hostile environments. Alumina ceramic linings will outlast lower grade materials commonly used to line or protect processing and material handling equipment, including stainless steel, carbon steel, basalt and AR plates by factors of 3 to 15 times. An economical cost vs wear-life ratio makes it one of the most widely used abrasion resistant materials in the industry.

Advantages:

- Maximum use temperatures over 2,000°F
- Zero porosity
- Half the weight of steel
- Variety of shapes and sizes readily available
- Economic installation in our shop or in the field
- Variety of adhesion methods

Made-To-Order Kits:

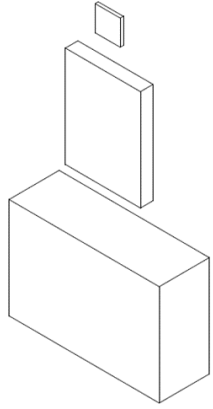
Commonly referred to as “pre-engineered” a kit of alumina ceramic pieces can be manufactured ready-to-install to minimize cutting time in many complex shaped substrates. Cones, pipes and transition linings for example can be installed in hours versus cutting these diamond hard tiles to fit the shape, around holes, doors or segments of pipe.



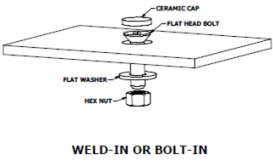
Stock Tiles:

With a wide variety of sizes available we can offer quick turnarounds for many projects.

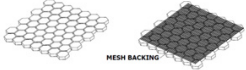
| Plain Tile (PL) | | Thickness | | | | |
|-----------------|--------|-----------|-----|-----|---|---|
| Width | Length | 1/8 | 1/4 | 1/2 | 1 | 2 |
| 1/2 | 1 | ✓ | ✓ | | | |
| 1 | 1 | ✓ | ✓ | ✓ | | |
| 1 | 2 | ✓ | ✓ | | | |
| 1 | 3 | ✓ | ✓ | | | |
| 1 | 4 | ✓ | ✓ | | | |
| 1 | 6 | ✓ | ✓ | | | |
| 2 | 2 | ✓ | ✓ | ✓ | | |
| 2 | 4 | ✓ | ✓ | ✓ | | |
| 2 | 6 | | ✓ | ✓ | ✓ | |
| 4 | 3 | | ✓ | ✓ | ✓ | ✓ |
| 4 | 4 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 4 | 6 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 4-1/2 | 9 | | | ✓ | | |



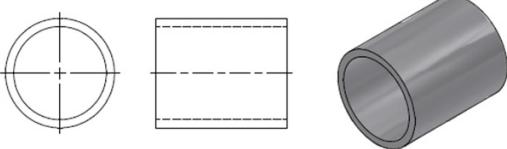
| Weld-Able Tile (WS) | | Thickness | | | | |
|---------------------|--------|-----------|-----|-----|---|---|
| Width | Length | 1/4 | 1/2 | 3/4 | 1 | 2 |
| 2 | 4 | ✓ | ✓ | | ✓ | |
| 2 | 6 | ✓ | ✓ | ✓ | ✓ | |
| 4 | 3 | | ✓ | | ✓ | ✓ |
| 4 | 4 | | ✓ | | ✓ | ✓ |
| 4 | 6 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 4-1/2 | 9 | | ✓ | | ✓ | |



| Hex Mesh (Hex) | | Thickness | | | |
|----------------|--------|-----------|-----|-----|-----|
| Width | Length | 1/8 | 1/4 | 3/8 | 1/2 |
| 6 | 6 | ✓ | ✓ | ✓ | ✓ |



| Iso-Pressed Cylinders | | |
|-----------------------|-------|--------|
| ID | OD | Length |
| 2.000 | 2.500 | 6.500 |
| 2.063 | 2.000 | 6.542 |
| 3.000 | 3.500 | 6.000 |
| 3.000 | 3.500 | 6.500 |
| 4.250 | 5.000 | 6.000 |



Make the "Right Choice" and contact your C.L. Smith Industrial Sales Representative for all your wear product needs!