



Plibrico Company, LLC

1935 Techny Road - Unit 16
 Northbrook, IL 60062
 (312) 337-9000
 www.plibrico.com

Technical Data Sheet Plicast Al-Tuff LWI 20

Product # 16503

Available Internationally As: Plico Castable A-T LWI 20

Product Description:

An intermediate temperature, aluminum resistant insulating castable.

Standard Packaging: 55 # / 25 kg Bag

Shelf Life: 12 months

Service Limit: 2000 °F 1090 °C

Contact Limit: 1500 °F 816 °C

Bulk Density - In Service: 58 pcf 929 kg/m³

Bulk Density - To Place: 58 pcf 929 kg/m³

Minimum Time To Firing: 24 hr

Abrasion Loss after 1500°F / 815°C
 per ASTM C704

N/A cc

| Chemistry (calcined) % | | | | | |
|--------------------------------|------|-------------------------------|-----|------------------|-----|
| Al ₂ O ₃ | 42.3 | Alk | 1.7 | MgO | 0.5 |
| SiO ₂ | 30.3 | TiO ₂ | 1.5 | ZrO ₂ | |
| CaO | 19.5 | P ₂ O ₅ | | Other | |
| Fe ₂ O ₃ | 4.3 | SiC | | | |

| Water Range Per Standard Package | | % | Quarts | Liters |
|----------------------------------|-----|------|--------|--------|
| Vib Casting | min | | | |
| | max | | | |
| Casting | min | 39.6 | 10.5 | 9.9 |
| | max | 45.6 | 12.1 | 11.4 |
| Pumping | min | | | |
| | max | | | |

Coefficient of Thermal Expansion (reversible):

2.8 x 10⁻⁶ in/in/°F / 5.0 x 10⁻⁶ mm/mm/°C

| Thermal Conductivity | btu*in/hr*ft ² *°F | W/m ² *°C |
|----------------------|-------------------------------|----------------------|
| 500°F / 260°C | 1.7 | 0.2 |
| 1000°F / 540°C | 1.9 | 0.3 |
| 1500°F / 815°C | 2.0 | 0.3 |
| 2000°F / 1090°C | | |

| Temperature | | Linear Change% per ASTM C113 | CCS per ASTM C133 | | Cold MOR per ASTM C133 | | Hot MOR per ASTM C583 | |
|-------------|------|---------------------------------|----------------------|-----|---------------------------|-----|--------------------------|-----|
| °F | °C | | psi | MPa | psi | MPa | psi | MPa |
| 230 | 110 | -0.2 | 950 | 7.0 | 300 | 2.1 | | |
| 1000 | 540 | -0.7 | | | 200 | 1.4 | 90 | 0.6 |
| 1500 | 820 | -0.8 | 600 | 4.1 | 200 | 1.4 | 100 | 0.7 |
| 2000 | 1090 | -1.5 | | | 125 | 0.9 | | |

Other Data:

Release Date: 1 Aug 2019

Heat Up Guide: Schedule B

ASTM Class: C 401 Class O Insulating Castable

Refractory material should be stored in a cool, dry environment.

Note: All data are averaged results of ASTM tests (where applicable) on laboratory specimens. Reasonable variations in data can be expected. Data is not to be used for specification purposes. Product data is periodically updated to reflect product, raw material, process and/or testing changes. Please consult your Plibrico representative to make sure you have the most current data.