

TECHNICAL DATA**CASTABLES****PLASTIC INSULCRETE™****Description:**

PLASTIC INSULCRETE is a Lightweight, High Temperature INSULATING CASTABLE. **PLASTIC INSULCRETE** provides Exceptional Strength, Resistance to Thermal Shock and Low Thermal Conductivities. It is primarily used as a single layer insulation for Steam Boilers, Reactor Vessels, Process Heaters and Reheat Furnaces.

Service Limit:

2500°F

P.C.E. Value:

Cone 15 (2606°F)

ASTM Class:

Class Q

Packaging:

50 lb. bags

Chemical Analysis:**Thermal Conductivity:**

Typical	
Al ₂ O ₃	38.5%
SiO ₂	45.4
CaO	10.7
Fe ₂ O ₃	3.3
TiO ₂	0.8
MgO	0.2
Alkalies	0.6
L.O.I.	0.5

Typical	
Mean Temp	'K**
500°F	2.1
1000°F	2.4
1500°F	2.7
2000°F	3.0
CAST	
*(BTU/FT ² /HR/°F/IN)	

Typical Physical Properties:

(as determined on CAST specimens, ASTM methods where applicable)

Fired to (°F)	Density (Lbs./Cu. Ft.)	Linear Change, (%)	Modulus of Rupture, (psi)	Cold Crushing Strength, (psi)
	CAST	CAST	CAST	CAST
230	78-81	0.0	179-208	617-682
1000	73-76	0.0 to +0.1	94-127	677-787
2000	71-73	-0.1 to -0.3	65-90	549-600
2500	73-75	-1.1 to -1.6	414-451	1011-1197

Application Methods:

- Material required to CAST 1 cubic ft. is 77-83 lbs.
- Water required to CAST 100 lbs. of material is 5.5 gal.
- Casting procedures are recommended in Brochure No. QS 102

Note: For GUNNED data see Gunning Mixes, Insulations.

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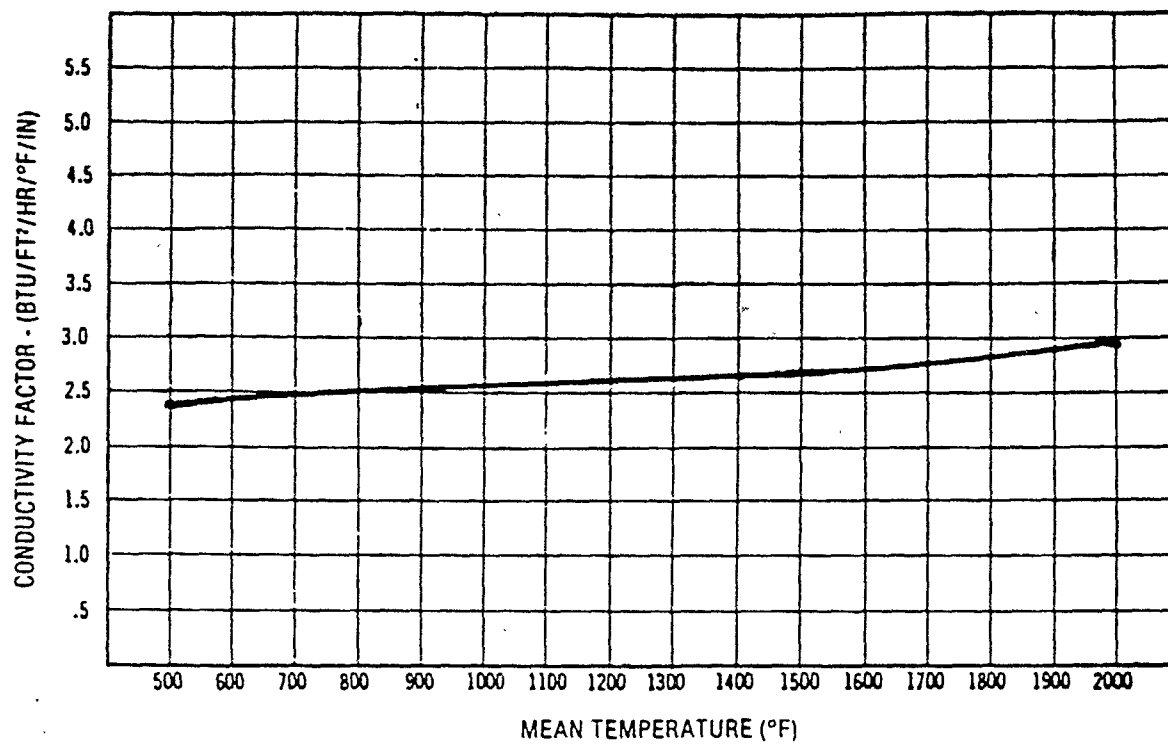


QUIGLEY COMPANY INC.
a subsidiary of Pfizer Inc.

235 EAST 42nd STREET, NEW YORK, N. Y. 10017

ASARCO ELP 0000015

THERMAL CONDUCTIVITY - PLASTIC INSULCRETE (Gunned)



SECTION V - HEALTH HAZARD DATA	
THRESHOLD LIMIT VALUE 5 mg/m ³ Respirable - 15 mg/m ³ Total Dust.	NUISANCE DUST - AVOID INHALATION
EFFECTS OF OVEREXPOSURE May cause eye and skin irritation to those with sensitive skin, and/or irritation in respiratory tract.	
EMERGENCY AND FIRST AID PROCEDURES Wash dust from skin with soap and water. Flush out eyes with generous amounts of water. If irritation persists, get medical attention.	

SECTION VI - REACTIVITY DATA			
STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	NONE
INCOMPATIBILITY (Materials to avoid)		NONE	
HAZARDOUS DECOMPOSITION PRODUCTS		NONE	
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	NONE

SECTION VII - SPILL OR LEAK PROCEDURES	
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED Normal clean-up procedures. Care should be taken to avoid causing dust to become airborne. Vacuum cleaning systems are recommended.	
WASTE DISPOSAL METHOD Disposal must be made in accordance with Federal, State, and Local regulations.	

SECTION VIII - SPECIAL PROTECTION INFORMATION		
RESPIRATORY PROTECTION (Specify type) Use of Dust Respirator is recommended when exposure limits may be exceeded.		
VENTILATION	LOCAL EXHAUST Local exhaust ventilation to collector	SPECIAL or containment recommended
	MECHANICAL (General) to control dust to below exposure limits.	OTHER
PROTECTIVE GLOVES Leather or Rubber Gloves	EYE PROTECTION Dust-tight goggles in dusty environment.	
OTHER PROTECTIVE EQUIPMENT		

SECTION IX - SPECIAL PRECAUTIONS	
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING Good industrial hygiene practice requires that employee exposure be maintained below the recommended TLV. This is preferably achieved through the provision of adequate ventilation where necessary. Where dust cannot be controlled in this way, personal respiratory protection should be employed.	

PAGE (2)
CPO 920-348

Legal responsibility is assumed only for the fact that all
studies reported here and all opinions are those of qualified
experts.

Form OSHA-20
Rev. May 72

Prepared by: M. C. Larson, Manager, Safety & Environmental Health - May 6, 1982

ASARCO ELP 0000017

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE
5 mg/m³ Respirable - 15 mg/m³ Total Dust. NUISANCE DUST -
AVOID INHALATION

EFFECTS OF OVEREXPOSURE
May cause eye and skin irritation to those with sensitive skin, and/or
irritation in respiratory tract.

EMERGENCY AND FIRST AID PROCEDURES
Wash dust from skin with soap and water. Flush out eyes with generous amounts
of water. If irritation persists, get medical attention.

SECTION VI - REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	NONE
INCOMPATIBILITY (Materials to avoid)		NONE	
HAZARDOUS DECOMPOSITION PRODUCTS		NONE	
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	NONE

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Normal clean-up procedures. Care should be taken to avoid causing dust to
become airborne. Vacuum cleaning systems are recommended.

WASTE DISPOSAL METHOD
Disposal must be made in accordance with Federal, State, and Local regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type) Use of Dust Respirator is recommended when exposure limits may be exceeded.		
VENTILATION	LOCAL EXHAUST Local exhaust ventilation to collector	SPECIAL or containment recommended
	MECHANICAL (General) to control dust to below exposure limits.	OTHER
PROTECTIVE GLOVES Leather or Rubber Gloves		EYE PROTECTION Dust-tight goggles in dusty environment.
OTHER PROTECTIVE EQUIPMENT		

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Good industrial hygiene practice requires that employee exposure be maintained
below the recommended TLV. This is preferably achieved through the provision
of adequate ventilation where necessary. Where dust cannot be controlled in this
way, personal respiratory protection should be employed.

PAGE (2)
GPO 9-20-508

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Prepared by: M. C. Larson, Manager, Safety & Environmental Health - May 6, 1982

ASARCO ELP 0000018

GUNNING MIXES

PLASTIC INSULCRETE™

Description:

PLASTIC INSULCRETE is a Lightweight, High Temperature Insulating GUNNING MIX. **PLASTIC INSULCRETE** provides Exceptional Strength, Resistance to Thermal Shock, and Low Thermal Conductivities. It is primarily used as a single layer insulation for Steam Boilers, Reactor Vessels, Process Heaters and Reheat Furnaces.

Service systems.

2500°F

P.C.E. Value:

Cone 15 (2606°F)

ASTM Class:

No Designation

Packaging:

50 lb. bags

Chemical Analysis:

Typical	
Al ₂ O ₃	38.5%
SiO ₂	45.4
CaO	10.7
Fe ₂ O ₃	3.3
TiO ₂	0.8
MgO	0.2
Alkalies	0.6
L.O.I.	0.5

Thermal Conductivity:

Typical	
Mean Temp	'K"
500°F	2.4
1500°F	2.7
2000°F	2.9

GUNNED

*(BTU/FT²/HR.°F/IN)

**Typical
Physical
Properties:**

(as determined on GUNNED specimens, ASTM methods where applicable)

Fired to (°F)	Density (Lbs./Cu. Ft.)	Linear Change, (%)	Modulus of Rupture, (psi)	Cold Crushing Strength, (psi)
	GUNNED	GUNNED	GUNNED	GUNNED
230	87-95	0.0	276-600	940-1698
1000	85-89	-0.2 to -0.3	261-355	1521-1720
2000	76-84	-0.1 to -0.5	121-299	513-1025
2500	84-90	-1.6 to -2.3	725-1197	2069-2863

Application Methods:

- Material required to GUN 1 cubic ft. is 89-96 lbs.
- Recommended water required for pre-wet is 4-6%.
- Gunning procedures are recommended in Brochure No. QS 102

Note: For CAST data see Castables, Insulations.

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THERMAL CONDUCTIVITY - PLASTIC INSULCRETE (C-100)

