



Benefits of Using International Technical Ceramic Products

Energy Savings:

ITC-100HT and ITC-296A are very high Infrared (IR) reflective materials. This reflectivity increases the heat retaining efficiency of high temperature furnaces, process piping and other devices. Efficiency improvements vary as much as the devices these products are used in and their operating parameters. Users report 10 to 30% reductions in fuel use or achievement of significantly higher temperatures.

Refractory Durability:

Cured ITC-100HT and ITC-296A are very hard producing a protective surface over soft friable refractories such as insulating bricks, IFB's and ceramic blankets. This hard surface prevents the formation of dust from the breakdown of the surface of these refractories. These ITC products have a very high temperature operating range (up to 4,000°F) which gives the refractories they are applied to a much higher temperature resistant surface.

ITC-296A is a high purity fine grain product that results in a smooth surface that ash, slag and scale sticks to much less than normal refractory surfaces. This greatly increases the life of furnace linings, crucibles and other liquid metal handling surfaces. Reduction of fly ash and soot buildup greatly increase component life.

Process Improvements:

ITC-100HT and ITC-296A produce cleaner operating environments in furnaces and process chambers. Less sticking of metal froth and slag means lower losses of material and longer refractory life. The IR reflectivity results in higher temperatures, lower fuel use and/or shorter process times.

Protection of Metals:

ITC-213 is used to coat metal parts OR metals being processed. Furnace parts last longer, processed metals oxidize less. ITC-213 is used as a primer prior to applying other ITC products to metals. ITC-213 has been used to reduce scaling of slabs and billets saving tons of metal in forging and rolling plants. It is also used in lieu of expensive controlled atmosphere furnaces for working exotic metals. Payback in these cases is immediate. ITC-213 can protect and increase the life of boiler tubes. ITC-213 is also used to protect graphite and silicon carbide crucibles or parts.

A Unique "Green" Material:

Invented and manufactured by Feriz Delkic, Ceramic Engineer, ITC products are unique in the industry. ITC products are used by NASA, U.S. government laboratories, international manufacturers, power plants, potteries and even blacksmith's forges.

ITC products are water based. No solvents are required for dilution or clean up. On curing they are environmentally inert and do not require special handling or disposal. ITC products are "green" by saving energy, reducing waste and being non-hazardous.

Unique ceramic products manufactured by International Technical Ceramics, LLC. Southlake, TX 76092, USA



Application of International Technical Ceramic Products

BASIC ITC PRODUCT USE GUIDE	
ITC-100HT	IR reflectivity, energy efficiency, increased heat resistance and durability, refractory sealer
ITC-148	Heavy duty refractory repair and surface hardening. Used with ITC-100HT
ITC-200EZ	Ready to use refractory repair compatible with ITC-100HT, 148, 296A
ITC-213	Protection of metals, graphite, silicon carbide crucibles and primer for other ITC products.
ITC-296A	High purity adhesion resistant top coating for ceramics, glass and foundry applications.
For detailed information see the <i>Engineering Standards</i> , SDS and other literature also available on-line at www.ceramaterials.com .	

ITC PRODUCT DILUTION and APPLICATION GUIDE					
PRODUCT	THINNER	RATIO	BASE	COVERAGE	METHOD
ITC-100HT	water	1 : 2	* Refractories	50-100 sq/ft Gallon	Spray or Brush
ITC-148	ITC-100	~1 : 8	ITC-100HT	NA	Spatula or Trowel
ITC-200EZ	none**	:	Fresh ITC-100HT	NA	Spatula or Trowel
ITC-213	water	1 : 3	Metals, Graphite, SiC	150-250 sq/ft Gallon	Rag, Brush or Spray
ITC-296A	water	1 : 2	All ITC Products	100-200 sq/ft Gallon	Spray or Brush
<p>* Refractories include castables, fired brick, IFB's, ceramic blanket, fiber and other ITC products. ** If necessary water or diluted ITC-100 HT. Coverage varies according to texture, application method and water absorption rate. 1 : 2 dilution equals 1/2 pt. water to 1 pt. ITC. 1 : 3 dilution equals 1/3 pt. water to 1 pt. ITC, etc.</p>					

ITC products are water based and shipped as a heavy paste. Their shelf life is as long as they do not dry out. Dried unused ITC products cannot be reconstituted.

We recommend that partially used containers of undiluted product have a small amount of water added and then seal well. Sealing the entire container in a zip-lock bag will increase shelf life.

Refractory surfaces should be clean and dust free prior to applying ITC products. Lightly spritzing refractory surfaces with water prior to application of ITC products will help bonding. ITC-100HT is best applied to new unfired refractory blanket rather than fired.

ITC-213 is best scrubbed in with a rag or brush but can also be sprayed. Metal surfaces should be thoroughly degreased and cleaned using a dilute bleach and water solution. Very smooth surfaces should be scratched up using a hack saw blade, emory cloth, or steel wool. A grinder should not be used. Mild heating until it is hot but not burning to the touch helps to expand the metal microstructure opening up "pores" for the ceramic to penetrate and infiltrate the matrix.

The current recommendation for spraying ITC-100HT and 296A is the use of a commonly available textured ceiling paint system. For small areas a 1 inch (25 mm) brush can be used. ITC-200EZ and 148 are trowel, putty knife, or spatula applied.

