

## FREQUENTLY ASKED QUESTIONS ABOUT TC Ceramic

1. Up to what maximum heat temperature can TC Ceramic absorb?  
500°F OR 260°C – WE SUGGEST KEEPING MOST APPLICATIONS UNDER 400°F OR 210°C BECAUSE OF HEAT SPIKES WHICH CAN EXCEED 500°F OR 260°C.
2. Can it be applied to steam pipes? YES.
3. As a burn protection to workers? YES.
4. If I apply TC Ceramic to a steam pipe line exceeding boiling temperature for 5 hours,
  - a. Will the ceramic still insulate the pipe? YES
  - b. Will it reduce the pipe to a safe touchable temperature? YES
  - c. Will it peel off? NO, SO LONG AS IT DOES NOT EXCEED 500°F OR 260°C.
5. Can it be applied to air condition ducts and the tops of external air conditioners? YES
6. Can it be applied to surfaces to reduce or stop condensation?  
YES. THE THICKNESS NECESSARY WOULD BE ABOUT 40 TO 60 MILS THICK. (1 MM TO 1.5MM) DEPENDING UPON THE HUMIDITY AND THE TEMPERATURE OF THE UNIT BEING COATED. EXTREME SITUATIONS WILL REQUIRE MORE.
7. Can it be used as replacement to urethane insulation or fiberglass insulation? YES. THERE ARE SITUATIONS WHERE THE OTHER PRODUCTS MAY WORK BETTER OR MIGHT BE CHEAPER. EACH APPLICATION HAS TO HAVE ALL ASPECTS CONSIDERED AS TO EFFECTIVENESS AND COST BENEFITS.
8. What is the texture of your finish product surface? SMOOTH
9. Can it be applied to concrete? YES
10. Can it be painted over after being applied to the concrete? -- YES. IN A NON-SOLAR APPLICATION, IT CAN BE PAINTED ANY COLOR. RECOMMENDED IS AN ACRYLIC TYPE PAINT.  
-- IN A SOLAR APPLICATION, IT IS NOT RECOMMENDED TO BE PAINTED OVER AS IT WILL IMPACT AND REDUCE THE BENEFITS OF THE SOLAR REFLECTION AND HEAT REDUCTION.
11. Does it have corrosive resistant properties? YES. IT ADHERES DIRECTLY TO THE SURFACE, ACTING AS A VAPOR BARRIER. IT IS IMPERVIOUS TO MOISTURE, IT MINIMIZES/REDUCES THE CHANCE OF CORROSION.
12. Is it acid resistant? NO. IF IT IS GOING TO BE USED IN AN ABRASIVE OR ACID ENVIRONMENT, THEN IT SHOULD BE SEALED WITH AN ACID RESISTANT URETHANE.
13. Does it have any resistance properties to mechanical loads? NO. IT IS NOT DESIGNED TO TAKE SUCH LOADS.
14. Will it adhere or bond to aluminum or stainless steel without primer? WITHOUT PRIMER? YES

15. Can we obtain different colors from the factory? IT IS ONLY PRODUCED IN WHITE. FEW APPLICATIONS REQUIRE COLORING IT.
16. Can we tint it ourselves? YES – USE STANDARD LATEX PIGMENT. USE 1.5 TIMES THE STANDARD AMOUNT OF PIGMENT IN THE COLOR CHARTS FOR ONE GALLON OF PAINT FOR EACH 5 GALLON BUCKET.
17. What is the application procedure? SEE INFORMATION PACKAGE FOR APPLICATION TECHNIQUES, PROCEDURES, CHECKLIST AND EQUIPMENT.
18. Is there a way to reduce the drying/curing time? YES. BY ADDING HEAT AND INCREASED AIR FLOW, THE DRYING/CURING TIME CAN BE SPED UP. IN THE SUN, CURING TIME IS AN HOUR OR TWO.
19. Is there a way to reduce the number of coats to be applied on a surface to speed up the application? YES. RECOMMENDED TO USE TC Ceramic HIGH BUILD ("HB"). "HB" CAN BE APPLIED IN THICKNESSES OF 30 MILS (.4MM) UP TO 60 MILS (1.6MM) PER COAT.
20. How long will it last? WARRANTY IS FOR TWO YEARS IN INDUSTRIAL APPLICATIONS (HOT PIPE ETC.) AND 10 YEARS FOR COMMERCIAL APPLICATIONS (ROOFS ETC.)
21. Is it a single component application? YES
22. Is there a need for primer? NO. THE SURFACE MUST BE CLEAN, DRY AND FREE OF DUST, DIRT, GREASE OR OIL. ON MOST STEEL SURFACES, IT IS RECOMMENDED TO USE A RUST INHIBITOR PRIMER AS IN THE ORDINARY PREPARATION OF THE STEEL.
23. Can we apply the coating directly on cleaned & prepared surface without primer? YES
24. If there is a need for primer what type of primer do we use? YOU CAN USE RED ZINC OXIDE OR SIMILAR ON BARE METALS, OR IF EXPOSED TO SALT AIR (OIL RIGS)
25. If TC Ceramic is applied to the interior of a roof, will it be still as effective? YES AND NO. IT WILL NOT REFLECT THE SOLAR HEAT, BUT WITH 30 TO 40 MILS (.8MM TO 1.0MM) IT WILL BLOCK THE HEAT FROM THE INSIDE. YES, IT STILL WORKS BUT DIFFERENTLY, THUS REQUIRES THICKER APPLICATIONS.
26. I understood that the efficiency of TC Ceramic is best when exposed to the sun, not underground, inside a roof, or under another coating. YES, THE BEST APPLICATION IS ON AN EXTERNAL ROOF AT 15 MILS/.4MM. – FOR REDUCING SOLAR HEAT. WITH THERMAL CONDUCTIVE HEAT, THEN YOU HAVE TO USE MORE PRODUCT TO BLOCK THE HEAT. THIS IS THE SAME WITH ALL INSULATIONS. MOISTURE WILL NOT IMPACT TC Ceramic'S INSULATION EFFECTIVENESS AS WITH OTHER MATERIALS.

27. Can it be applied as an interior or exterior coating? YES. EXTERIOR AT 15 MILS (.4MM) AND INTERIOR 30 MILS (.8MM) OR THICKER DEPENDING UPON THE SITUATION.
28. Does it stain easily, how do we clean it? YES, JUST LIKE WHITE PAINT STAINS. CLEAN WITH SOAP AND WATER. IF A CLEAN SURFACE IS IMPORTANT, THEN SEAL IT WITH A LATEX ENAMEL OR A URETHANE
29. Can it be removed from a surface if necessary? YES. PAINT THINNER OR PAINT STRIPPER WILL TAKE IT OFF SLOWLY.
30. Is the surface affected after removing it? THE SURFACE WILL PROBABLY NOT BE AFFECTED, BUT EACH APPLICATION IS DIFFERENT, SO THIS IS NOT A KNOWN FACTOR.
31. How long is the shelf life of your products? ONE YEAR WHEN STORED INSIDE IN A COOL PLACE. DO NOT ALLOW TO FREEZE.
32. What are the main criteria for evaluating the required thickness?  
FOR A PIPELINE :
- IS IT ABOVE GROUND OR BELOW GROUND?
  - IS IT IN AN ABUSIVE ENVIRONMENT?
  - DOES THE INSULATION NEED TO BE SEALED?
  - WHAT IS THE INSIDE TEMPERATURE OF THE PIPE?
  - WHAT IS THE OUTSIDE TEMPERATURE OF THE PIPE?
  - WHAT IS THE OUTSIDE & INSIDE TEMPERATURE YOU WISH TO MAINTAIN?
  - WHAT IS THE AMBIENT AIR TEMPERATURE OR GROUND TEMPERATURE?
  - WILL YOU HAVE RE-HEATING STATIONS ON THE LINE?
  - WHAT IS THE FLOW RATE IN THE PIPE?

CONSIDER ALSO THAT ALL ELBOWS, VALVES AND OTHER FITTINGS CAN BE INSULATED WITH TC Ceramic JUST BY SPRAYING THEM WITHOUT HAVING TO CREATE OR MANUFACTURE SOME SPECIAL INSULATION BOX. TC Ceramic WOULD ALSO BE ANTI-CORROSIVE AS IT IS IMPERVIOUS TO WATER, THUS SEALS THE PIPE. IT IS ALSO WHEN SEALED, RESISTANT TO BUGS OR SMALL ANIMALS FROM TRYING TO LIVE IN IT WHICH IS NORMAL FOR FOAM INSULATION. FOAM ALSO SLOWLY BECOMES WATER SATURATED WHICH THEN CEASES TO INSULATE.

33. Do you recommend the use of an additional urethane coating?  
YES, WE RECOMMEND SEALING THE THERMAL COAT IN PIPE APPLICATIONS IF ABUSE FROM HUMANS, ANIMALS OR INSECTS IS EXPECTED.

34. Do you recommend any specific urethane? YES. A URETHANE MANUFACTURED HERE WHICH IS VERY GOOD AND EFFECTIVE.

35. What would be the difference in savings (in %) with or without the urethane? NO INSULATION SAVINGS, JUST LONG TERM PROTECTION FOR THE COATING

36. How long between coats (min)? GENERALLY, WAIT 24 HOURS BETWEEN COATS. AMBIENT AIR TEMPERATURE AND AIR FLOW ARE THE BIGGEST FACTORS. HOT SURFACES MAY BE RE-COATED WHEN DRY TO THE TOUCH FOR THE 1ST AND 2ND COATS, THEN ALLOW IT TO CURE OVERNIGHT.