



## TC+MCU ARGUMENTATION

To be 100% sure our quote will be understood, I wanted to stress that we are not simply proposing a coating to apply underneath any cladding, like you are looking at with these epoxy type coatings. We truly believe that if you put back some mineral fibres like rockwool or glasswool, I can guarantee it will again create CUI because of wet insulation, immersion conditions with chemicals, high temperatures and cycles. This will definitely ruin any coating system underneath cladding, with just one difficult to answer question: when will it fail? Our experience tells it will take from 9-14 months to start CUI process and corrosion cells to grow underneath a cladding, submitted to such ambience and corrosion + temperature.

To avoid CUI once and for all, our 2 coatings system technology allows

- 1) To seal the EP without removing it completely = perfect adherence on EP and steel (more than 8-10 Mpa with ST2-ST3) + humidity impermeability and steel protection (no corrosion = no CUI!)
- 2) To insulate any steel or EP surfaces with our thermal insulation coating (Metaltec TC), which will avoid CUI by not using any mineral fibres or rockwool (wet insulation). Thermal insulation coating Metaltec TC will be for personal protection and energy retention. Thickness of the thermal insulation coating then will depend on the target and temperatures involved: 100°C = 2 mm Metaltec TC, 150°C 3 mm Metaltec TC and 200°C = 4,5 mm Metaltec TC.

The good news is: on 3/5 of the surfaces, where EP is still looking ok, with still good bonding and corrosion protection (cracks are not that deep), the added system (MCU + TC) is going to extend drastically the life time of the system. Globally it will last minimum 10 years with no problem, with NO inspection, NO maintenance, NO CUI, NO humidity trapped, just visual checks, because all is visible.

So our technical remedial solutions are

- 1) Seal existing EP with MCU primer: 1 layer 150 microns dft (HT250 on hot surfaces up to 230°C and Zinc HH on cold surfaces, then up to 400°C) Both are highly surface tolerant to humidity and surface prep down to ST2-ST3 (Wire brushing, water jetting, but no sandblasting is required) because we need no extra roughness or profile with MCU coatings.
- 2) Overcoat every single surface that needs to be insulated, with Metaltec TC on top of the MCU primer. Only 2 coats to apply with airless gun to replace complicated cladding. From what I can see from the document, you are going to end up with a very costly coating system to try to get rid of CUI, which is NOT possible, if you still use mineral fibres. The world as you know has been trying to avoid CUI for years, and NO ONE has ever found any serious system underneath cladding that works. All big companies involved in Cladding are trying to keep this moneymaking machine going although it is the biggest problem in Industry. Cladding will hide any future problems on the coatings due to CUI and you will need to remove cladding to find out where problems are (leaks, coating failures etc). With our system everything is visible as it is paint and the coating can be easily removed in small areas to check your steel surface. This technology is stable, easy to apply, durable (more than 10 years with no weather restrictions or sensitivity to UV attacks). We have Australian references with big companies like BHP.
- 3) if the surface is not designed to be insulated then it should be UV protected, and we will add a Topcoat layer 100 microns dft, to fully seal and protect the steel or EP surface from UV, saltwater corrosion, and chemicals from atmospheric corrosion.

If the people installing the cladding were 100% confident that their system will last 20 years, they would then give a warranty that includes labour costs in case of failure, why don't they guarantee their mineral fibres against humidity and CUI?

Unfortunately no cladding installation of manufacturing company is giving any guarantee on the mineral fibers..

Cladding is 10% material and 90% labour. The margin is in the labour, not the material. That is a trick that the cladding industry has been using for decades (warranty on parts and materials but not labour). The other big trick in mineral fibres is this famous « K » thermal conductivity coefficient. This is measured by the rockwool lobby in an oven at high temperature and zero (0) % humidity! We all know site conditions and this is not realistic. Still, aussie project engineers are doing their thermal insulation calculation with the K reference despite the fact that 4% in weight in a mineral fibre is decreasing thermal insulation properties and thermal conductivity by more than 70 %! Unbelievable lack of knowledge..

When you know that humidity in Darwin can be above 90%, how do you think your cladding will react?

Why a big group like Kaefer would help industry by moving to TIC? Certainly no good reason for them. They invoice their labour (remember 90% of the cost + 100% certainty of failures of cladding in a very limited time frame, about one year).

**Cladding means uninterrupted work for the EPCM companies as it entails constant removal and re application due to ongoing CUI induced failures.**

People make the same mistakes all over again and we hope that somehow some people will understand our technology and its benefits. Our products are not well received by so called "corrosion and insulation specialists" who have a vested interest in maintaining the status quo.

Anyway, you will find our easy system attached and we hope it will help you convince decision makers, especially the owners who will save hundreds of millions of dollars with this technology compared to cladding and whatever epoxy system underneath (Stopaq or Humidur) with their well known restrictions and limitations in term of surface prep, humidity issues, adherence, UV resistance and cracks or delamination.

**Big difference with our coating system MCU + TC, is that there will be no immersion conditions and NO air and moisture between the steel and the coating system ! Steel is going to be fully protected from moisture with EP + MCU sealant + TC thermal insulation when needed or EP + MCU sealant + MCU Topcoat, and this system is designed to withstand up to minimum 300°C for TC and 400°C for MCU coating system.**

Lets go through this important trial sessions and let s compare the technical benefits and costs savings brought by our technology !

I know you have heard most of the arguments in previous communications but feel free to distribute this information to anybody who is involved in the remediation work. That way nobody will be able to tell they didn't know when they will be working on another remediation to the remediation.

TC & MCU General Manager  
Metaltec & MCU Coatings Australia

