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SLAB EDGE INSULATION & TERMITES – Interview with the Building Inspector:

We recently published (in GCP No.12) an explanation of the slab edge insulation requirements which are required by Title 24 when specifying radiant heated floor slabs. We illustrated that prior discussion with examples of slab edge insulation as shown in the 2005 Residential Compliance Manual. (*if you need a copy of that newsletter, GCP-012, e-mail me and I'll send you one*)

However, being practicing architects and architectural engineers ourselves, we also push projects through permitting, construction and final inspections, which allow us firsthand knowledge of how Title 24 requirements interface with building inspection requirements. So, after discussing those slab insulation details last week with one of our colleagues, Bill Michelson, CEPE who is a San Joaquin County Building Inspector, he mentioned one glitch in those Title 24's details which Building Inspectors find troublesome in zones where termites are a problem, but he also recommended a solution, and here is that interview. Please find the referenced details in the attachment:

HUGENOT: Bill, as we have discussed previously slab flooring with built in radiant heat is becoming quite popular in residential design, because it has several advantages under title 24:

- Design simplicity.
- It can be poured in the slab which provides additional thermal mass.
- It requires no ducting and no duct maintenance.

But, from your onsite experience you have found that not all of the "approved" slab edge insulation details which are suggested on Page 3-45 of Title-24's 2005 Residential Compliance Manual actually satisfy the termite ingress prevention requirements?

MICHELSEN: That's right, while three of those shown do satisfy the requirements the fourth one, which shows the insulation on the "inside", actually allows a path for termite ingress. It may look like it is sealed to someone without first hand on-site construction experience, but it is not sealed.

HUGENOT: So, then if I understand this correctly, the other three exterior insulation details satisfy because they are outside the slab. But, the detail entitled "inside insulation" actually allows a path for termite ingress?

MICHELSEN: Yes, and unless it is properly sealed against termites the insulation actually creates a path for termite ingress, unless it has a termite shield and is sealed with a gasket or caulked.

HUGENOT: So then, in order to prevent termite ingress, this detail needs to be modified, by the addition of a sill gasket (sealer) over a termite shield at the top of the foundation, similar to that shown in the details on page 11-12 of the attached PDF, to prevent termite ingress?

Note: Be careful when looking at the details in the attached PDF. Bill is referring to the printed page numbers and not the page numbers in the electronic index on the right which is off by two pages because it includes title pages as well.

MICHELSEN: Yes, most of those details do have termite shields, but may require additional caulking. Also some of them have the galvanized metal shield showing on the outside of the house, and this is most effective against termites. But, many owners find this distasteful because the exposed metal it may rust. The detail on the right on page 12 does not have this exposed metal, but may require additional caulking under the exterior fascia. Actually, most of these details will solve the problem if properly installed. But, I would prefer to see them use a system similar to the detail on the right of page 11 in the attachment which is the most effective.

DESIGNS USING CERTIFIED TITLE 24 AUTHORS QUALIFY FOR GREEN POINTS:

One of the easiest ways to pick up extra Green Points, under **Section J - Building Performance**, of the Green Point-Rating (GPR) Checklist, is to have your Title 24 documentation authored by Mark English Architects where Alan Hugnot, is a *Certified Energy Plans Examiner* (CEPE).

Many Northern California building departments are now specifically requiring that all Title 24 documentation is to be authored by a CEPE. We can also to review the home's design for maximum efficiency and interaction of the building elements, to identify specific opportunities where measures that exceed Title 24 can be cost effective by modeling the home and by identifying additional green building opportunities for the project. Homes that exceed Title 24 by 15% or more may also be eligible for ENERGY STAR® certification.

KNOWLEDGE IS POWER: Making sure that particular green measures work within the overall design concept and that the combination will satisfy Title 24 energy compliance, while also keeping you apprised of new developments in GREEN DESIGN is a full time job....which we do for you at GREEN COMPLIANCE PLUS...as your own, on call (24/7), Title 24, Green Energy Compliance Experts.

Once we computer model your project for Title 24 compliance (during your preliminary design), our project specific energy analysis based on that model can be tweaked as the design changes and we can point the way to that *Brighter Shade of Green* your clients are seeking.

Give Alan or Mark a call at *Green Compliance Plus* (**415 391-0186**) to discuss your Title 24 documentation needs or any Green Energy Subject.