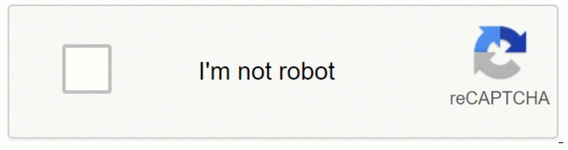

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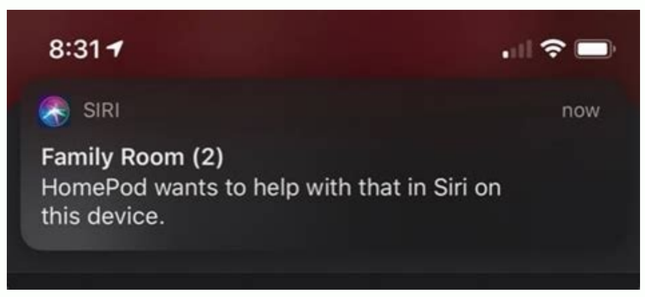

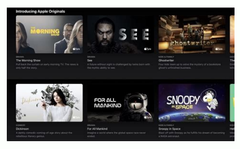

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I think it will be ok, but I cannot answer this question since problems may arise with a large amount of cells. A rule of “Swedish thumb” is that the zero degree isotherm must not reach below/under a 45 degree line that goes under and out from the side of the house. thanks to your help. Unfortunately, no one has volunteered to translate the German paper for me. You then have an indication of your numerical error for the used mesh in the transient calculation. I think that the heat flow for the old geometry (10077-:1998) was 11.2 W/m. Immediate remedy if you have a problem with the iPhone stuck on the charging screen or iPhone stuck on the red battery screen. Using larger numerical cells will increase the time-step but also increase the numerical error. However, to remove the device screen, you need to apply your Philips 00 screwdriver to take out the metal plate, which connected the screen's cables to the iPhone. Even if transient calculations take time, I think it is better to do this than to try to approximate the temperature field close to the slab with steady-state calculations. If it is protruding, it means that you haven't placed it properly. The document contains three calculation cases that have been validated using HEAT2 and HEAT3. I’m not interested in flow as much as temperature. The corner (3D) is normally used when looking at worst-case scenario. _____ I am very impressed with the capabilities of your software. I am interested in using this package for analysis of a small system enclosure with various layers of insulating materials. I have several questions however: 1) Can you create your own materials in the library with custom properties? Now your iPhone has replaced with a new battery. Looking forward to your answer I’m sending you my Best Regards. Example (see figure below): E.g three defined columns with temperature: Column 1. However, I don’t want to find out that even then, the problem is too time consuming. General My transient calculation takes long time. HEAT2 and HEAT3 optimize performance for Pentium II and III (and probably the same for P4). If I understand correctly, for 20 balls I will need 40 segments in X at least (one segment at least for each material transition, right ?). There may be 50 to 200 such solder balls in my model in the XY plane. Defining the geometry for repetitive structures should be easy since I can write a small C program to generate the DAT file. In HEAT2, boundary conditions, heat sources and internal areas of a specified temperature may be a function in time (sinus, step-wise constant or step-wise linear). There are often different standards in different countries and you should normally follow the one adopted by Germany. The plate remains shield to the battery connector, but it's easy to take off and move out from the problem with iPhone 6 stuck on the charging screen or iPhone stuck on the red battery screen. No, there is unfortunately no way to save the desk-top. The U-value becomes 3.2 W/m2,K. EN 673 Glass in building Determination of thermal transmittance (U-value) – Calculation method prEN 12519 Doors and windows – Terminology EN ISO 6946 Building components and building elements Thermal resistance and thermal transmittance Calculation method EN ISO 7345 Thermal insulation – Physical quantities and definitions EN ISO 10211-1 Thermal bridges in building constructions – Heat flows and surface temperatures Part 1: General calculation methods prEN ISO 10211-2 Thermal bridges in building construction Heat flows and surface temperatures Part 2: Calculation of linear thermal bridges ISO 10292 Glas in building Calculation of steady-state U-values (thermal transmittance) of multiple glazing HEAT2 5.0 has also possibilities to calculate heat transfer within frame cavities according to the current proposed standard prCEN/ISO/TC 89/WG7, document prEN10077-2 ((Thermal performance of windows, doors and shutters – Calculation of thermal transmittance – Part 2: Numerical method for frames). If you set the number of colors to 100 in the scale option menu, you will hardly see the difference. Step 7: Try to pull the plastic release tab to remove the battery from its place. The expression ‘internal cells’ is not defined, so I do not know how to alter this number. Try also to change the over-relaxation coefficient and see if the flows changes faster during the simulation. I changed only the one boundary condition. Another possibility is that you have very small numerical cells. Please take also into account that coatings may be on the outside or towards the cavity of the insulated glass units? The main tool is a screwdriver for removing the Pent lobe screws at iPhone bottom side. _____ I thought that I had managed to do 3D transient calculations to look at temperatures at the corner of a footing, but it seems I was mistaken! I was puzzled by the results, because temperatures that should have agreed with 2D transient calculations did not by a margin of several degrees. Could you tell me the prices of this software? 400 maximum segments, 250 maximum boxes, Nx=Ny=Nz=400 (about 2 GB RAM is required) The amount of RAM is roughly N*32+10 MB. HEAT2 and HEAT3 confirm to the standard to be classified as a high-precision method according to the standard. In 3D steady state, with insulation under the slab, what augmentation at the corner is needed to restore it to the same temperature as in step 2? They are all 1.0 here which may be a factor 1e6 or so wrong. That means (unless the relationship between real and virtual time is non-linear) that temperatures after 10 years would take only 600 years or so to predict! My own models, even when greatly simplified, were taking similar amounts of time. My discussion with Dr. X of IRC brought your HEAT3 development to my attention. A special version may be used: -A. For more information about features for HEAT2 see our on-line manual. Loading PreviewSorry, preview is currently unavailable. Here is a list of some related ISO standards. They cannot be retrieved either, in the case of click and drag settings, with adequate accuracy. My present computer has a Pentium Model 8 23 with math support on chip @ 233 MHz with 64 megs of RAM running WIN95 4.00.950B. 64 MB of RAM is sufficient. You will also need some toolkit, which includes a plastic pry tool, a standard Philips 00 screwdriver, and a suction cup. Feel free to specify your own data fields. We are also looking for layered composite examples. Q. What steady state exterior temperature will produce the same temperature at the base of the footing as in step 1, in 2D? Then replace the metal plate, inserting the tows first, carefully. The input would satisfy the HEAT3-50 conditions. 3) I may use dimensions as small as some microns (silicon chip…). The info log shows also the message: “.. The second part of the German report you got deals with added horizontal insulation outside the corner of a house. 5) How is convection boundary layer handled? You can estimate the numerical error by doing two fast steady-state calculations, one with the mesh you intend to use in the transient calculations and one with a denser grid that gives a “true” value for heat flows/temperatures. If I understand correctly, the insulation is only under the building, not around the perimeter extending beyond the building. You can load older files but only work with them in text-style format. Standards Q. I started on the same path anyway, although I failed on the first attempt to change the boundary condition to “function”, an error I’m not likely to repeat. Yes, do as follows: 1. 4) Can temperature and heat sources time dependent data be input from a file? My next idea is to use 2D transient calculations first, and then find an exterior temperature that produces the annual minimum footing temperature midway between corners with a 3D steady state calculation. Series 2 will now be a copy of series 1. The current state of the art in rules of thumb here is that next to a heated building, a foundation depth of 1.2 m below grade is adequate. After all, the uncertainty of the soil properties are probably much higher than this (in addition you have all the conservative factors you mention below). You need to put a constant pressure, and you will hear battery releasing. No need to search shop! No need to wait for counting days to solve your issue! The theory is described in this thesis. Steady-state only. With very low thermal capacities, the calculations are within the realm of the possible, but I assume the results are spurious. It gets very seldom over the limit of 1000. Would it be reasonable to assume that conditions at the corner predicted by the same means would also approximate the annual minimum? Regarding the colors; maybe you are using 256 colors in Windows? Batch mode is not direct supported. I tried the example with the heat capacities set to 1e6 for all materials just to get an idea of the simulation time (the value for the insulation is of course not so good). Step 10: Catch the top edge of the screen into the body of the device. g. Your drawing is slightly different from the one in 10077-2:1998 (dxf in attachment). Step 3: With the help of suction cup, apply tough pressure towards the upside of the home button, or to either side of it. The text editor can hold 16 MB of text (160 characters per row would give a maximum number of rows of 100 000) so this should present no problem for you. settings as previous sessions to create comparable images for conditions I did not think of before. Your earliest reply would be appreciated very much. There are two simple solutions: 1. Most of it applies to 3D cases as well. I am running under Windows 2000 Professional on an AMD Athlon 950 machine. It should be sufficient to run the 3D frost heave problem for a simulation period of 3-5 years overnight. Are there architectural differences between my Pentium and more recent models that make a difference, apart from clock speed? It would be useful if you can give or guide us of some examples for our verifications. I am starting with August in hopes of minimizing differences between steady state and transient temperature fields. With a full 3D model, under the same conditions, what is the temperature under the footing at the corner, and how far back along the wall does the influence of the corner extend? If my equipment is performing to expectation, I must abandon the idea of doing 3D transient calculations to compare temperatures at external corners with and without insulation, unless you can see a way. Now, the shown series 1 is the default series (column number 2 now). It would make any sense to use more colors since it is hard to see the difference between the shades (at least with the false color representation I use). Step 5: There is a Trick for replacing the battery without causing any disconnection to the screen, but you will have to carefully hold it at 90 degrees during the entire course. No other customer has requested this kind of boundary condition. It is a model for pure heat conduction. Change the “show graphics” in the record window to column “2”. And how can I convert? When I prepare bitmap images to compare to each other, I need to get back to the same viewpoint, zoom, scale, isotherm, rotation, etc. Just load the file and press F9. Every day costs my customer a penalty sum. It takes 29 sec on my PC, 2678 iterations, N=25600 cells, HEAT2 ICPS=2.36 million. The data files of versions before 5.0 do not contain information that is needed by the HEAT2 5.0 pre-processor. Seebuildingphysics.comfor info. The following list shows some examples for HEAT3: -1.7 million (120*120*120) requires about 60 MB RAM (a pc with 80 MB RAM is recommended) -3.4 million (150*150*150) requires about 120 MB RAM (a pc with 128 MB RAM is recommended) -8 million (200*200*200) requires about 250 MB RAM (a pc with 256 MB RAM is recommended) -16 million requires about 500 MB RAM (a pc with 512 MB RAM is recommended) etc. Our aim is to have a cabin model with which execute a 3D forecastle of temperature inside the cabin in different fire situations. Actually, the 254 value denotes the number of shades in HEAT2 that are chosen from these 65 000 (or more) colors. You can download the paper by clicking the button above. open the bmp-files in MS Paint and save them as jpg or tif that can be imported into other programs. You can validate your own model using the same input. Step 2: Use your Pent lobe screwdriver for removing screws (mainly two)from the bottommost area of your iPhone. Our 3D model HEAT3 does not account for radiation exchange. In the record window choose menu item “Graphics” for column “1”. The program will run on Windows 95/98 in dos mode. Thank you for your email. Copy this to stack with the clone commando. In the manual no restrictions are made for a number of internal cells. Only long-wave radiative calculations within a cavity may be done. No interfaces to other programs have been done. Even with a much faster computer, I wonder how long it might take? You should try to use a fast computer with a modern Pentium or a Athlon CPU. If the drawings didn’t change, is it possible to send us the intermediate and final results for our dxf-attachment? Simulation/Performance Q. Also, open up the small gap to make the device screen open. It took me a CPU time of 45 min to simulate one year (ICPS 720 000). HEAT2 does not model heat exchange by radiation for outside surfaces. In particular we are unable to use / modify models within the pre-processor integrated in current version 5.0. How can we overcome this problem? _____ I am interested in a HEAT3-type of software program but for cylindrical co-ordinates. Do you have one that would solve a simple-geometry 3-dimensional heat conduction problem? Let me know if you have further questions about HEAT2/HEAT3. My machine is a PIII 500 MHz. Your PC should be almost twice as fast (I guess about 1.9 times). This will open the chart window with series1. The function editor (text file with step-wise constant or step-wise linear values) can import different formats, data may be cut and pasted from e.g Excel. A transient simulation using steel may e.g. take 55 times longer compared with using brick (3.3/0.05=55). See the on-line manual for more info.The coming version 4 of HEAT3 will use the same material file format as HEAT2. If the drawings changed for version 10077-2:2000, please send us the result for total heat flux (W/m) and U-value of the frame, as mentioned in the new version of the standard (which I don’t have). But since the outdoor temperature varies a few years sinusoidally, this may not be true. Seeking cells at internal corners… Found=57 OK” In the future you may also want versions with more cells. In evaluating your calculation program HEAT2, we checked the manual example (p. Adding more memory will not increase sepeed. My PC has 2 GB RAM so from what you said I expect that the RAM only will limit the cell number to about 400 in X,Y,Z. Note that the amount of cells does not have to be equal in all directions. Have you any idea what would be the minimum? 400 maximum segments, 250 maximum boxes, Nx=Ny=Nz=200 (about 260 RAM is required) -B. In 2D steady state, if insulation is added under the slab, what additional insulation is needed outside the building to restore the footing to the same temperature as in 3? Any suggestions you’d like to share will be welcome. Show data for column 3. When steady state solving on HEAT3-50 or HEAT3-c, I receive an error message: Too many internal cells: (2326) Maximum = 1000. Step 8: Now, carefully line up the new battery, Softly press it into place and screw the metal plate to secure it. Now go connect the charger and wait to get to turn on! Note: Get out of the issue with iPhone 6 stuck on the charging screen. You will have to elaborate on the numerical mesh and not choose a too dense grid. Internal cells are those that meet in an inward bent corner. There are some additional benchmarks in the manuals. – is it possible to work with more than one function or to add a factor? See chapter 7 in the HEAT2 manual for more info. The clock rate is the most important factor for PII and III systems, i.e a PIII running on 1 GHz is twice as fast as a 500 MHz CPU for calculations with HEAT2 and HEAT3. If I cannot solve this problem in a reasonable time without a faster one, I’ll get one. Change color to orange. (At the moment, I’m doing this with Heat3 and a 1 cell vertical slice from the 3D model with all of the sub-grade insulation having the same properties as the ground, and the number of cells reduced. As always, any suggestions will be most welcome. It may be used in your case to see how the interior surface temperature varies in time after a sudden raise of the external temperature (on the other side of the wall). Can you suggest ways to get a less accurate answer in less time? Change color to green. Please help us immediately to solve this problem. I need to open a DAT file, load a PSE file, and then ….? Go to the “Series” tab and press the “Clone” tab. Yes, open the material editor (item Materials/Edit materials in the pre-processor, or double click on any material in the pick list). I am now doing a transient run, with f1=0 (i.e. starting with August, more or less), to stop at a month. Note that the amount of cells in the three directions does not have to be equal. In this way you can copy each default series to the “stack”. A Pentium III 500 will probably be 4-5 times faster than your Pentium 233. The full program I am trying to follow is: What minimum temperature does the footing bearing surface experience during the annual cycle, using a 2D transient model? Every time I close a file, these settings are lost. I still intend to assume that even if freezing is indicated within the splay of the foundation by the transient calculation, that things are OK, since these foundations perform adequately in fact. The following table shows some material. It is clear from the initial progress that to run a full month will take a long time! (So far, more than an hour to do 10s of model time.) I can speed this up somewhat by removing device drivers and background processes, and refraining from doing other tasks, but this seems a faint hope. Step 4: With the help of a pry tool, to release the clips(which are holding up the screen to your phone.), you need to work from the bottom to the middle side. Now, mildly press the screen down working your way from the top to the bottom. 3. We need to verify our 3-D computation of heat transfer. 3) With purchase of the Heat 2 /3 package, what is the version upgrade /support policy? A surface resistance coefficient (inverted heat transfer coefficient) is given as a fix value. The optimum coefficient is often 1.8-2.0. Use a large over-relaxation coefficient (1.95-2.0, see manual) when there is a high ratio between the thermal conductivities. I understand and appreciate your caution, although I may not follow your sage advice in this regard. 1) In my typical application I have a BGA IC (ball grid array integrated circuit) or flip chip, in electronic application, where in X axis I may have 13 solder balls (could be 20 as well, same in Y direction), each ball (small sphere) being represented for instance by 4 cells in X (sphere represented by box), and they are spaced by eg 4 cells also. When corrected, these values slowed things down amazingly! I tried to simplify, but even with fewer cells the difficulty persists. I have not tinkered much with the Slab Demo, but perhaps some suggestions will be of use. Here are some data about numerical performance. IES FACET, ESP, TRNSYS….)? Since, if the soil is moist, the advance of the 0 deg C isotherm (and it’s subsequent retreat) would be much less rapid than the transient calculation will indicate (due to heat of fusion). _____ We are looking to verify the prediction of heat transfer of our in-house program a colleague and myself have developed a finite element based program for structural and transient analysis. Can you confirm this? In these days I’m involved with a study on cruise vessels’ passengers cabins vs. Below are some frequently asked questions for HEAT2 and HEAT3. The annual heat flow from the building is of interest, of course, but I also need assurance that the ground is not freezing under the building. The second shown series is the old copy of series 1 (column number 1). After that I apply a sudden cold-spell (e.g. -18 degC) for 1 or 2 weeks and look at the isotherms under or near the house. But one way to run different problems is to start several instances of HEAT2/HEAT3 solving the different problems simultaneously. I am a bit puzzled that you get an ICPS (Iterated cells per second) of only 185425. What time does it take to solve the enclosed HEAT2 problem “bench.dat” on your PC? (e.g. conservatory 15 – 30°C, room 20 – 25°C(half amplitude)) is it possible to combine heat with other programs e.g. that calculate air flow or simulate large buildings/e. Is this reasonable, or should I be looking for something wrong with my equipment? The iPhone undoubtedly looks impermeable, but you required a few screws to take out your battery, and it is very easy to do. Note that the clones must be deleted by hand in the chart editor when new values are recalculated. It should be around 1E5-1E6 J/(m3,K) (that is 0.001-1 MJ/(m3,K). Use Edit/Insert record to add a material. In conjunction with that, can you please advise us, whether it is possible to model glass panels with low emission coatings, sun protection coatings and/or ceramic frits within Heat 2 5.0 ? For your immediate collaboration we thank you very much. 1. _____ Continued from last topic… I’ll re-read the manual in case there’s something I missed. _____ We have problems opening files created with an earlier version of Heat 2. I could however not import it into an older version of Adobe Photoshop (ver 5.5). Using Heat3, I am going to try looking into the effects of a combination of insulation under slab on grade, with perimeter insulation on a horizontal plane in the ground extending beyond the building, including a building corner. HEAT3 has only one function, but HEAT2 can handle three. Two of them are covered in the manuals for HEAT2 and HEAT3, see page 135 (HEAT2) and page 68 (HEAT3). 2. Even the ability to open a DAT, and then load PSE files one after another without resetting the graphics would be very helpful. As our company is mainly involved in design, fabrication and installation of bespoke metal/glass facades and roofs, very often we have to deal with high performance glass, designed as retained glazing, point supported glazing and/or silicone structural glazing. E.g. Nx=500, Ny=500, Nz=50 would only require about 410 MB RAM. Thanks for helping us in the evaluation of your calculation program. Keep all the screws safe. There might exist some 2D tricks in certain case, but I am not familiar with those. Is there some round-off truncation in the software which could lead to errors for small dimensions like these ? Is there a way I have not found to save graphic settings in Heat 2 and 3? The limit is the PC memory size (RAM). I had no problem to open and import a BMP-file saved by HEAT2 into Word 2000 and Powerpoint 2000. You may have entered a wrong volumetric heat capacity. Note that the volumetric heat capacity is the density times the specific heat capacity. Graphics Q. There is a similar rule for isolated foundations, but the depth eludes me at the moment. I quickly tested your 3D conduction software Heat3 downloaded March 8, 2000: I like the interface (text file oriented but with immediate graphics update), but I have great concerns about the limitations. eventual fire. We only have an older dos-program for transient and steady-state heat transfer in cylindrical co-ordinates. Maybe you have other resident programs (Norton utilities?) that takes up CPU-time. It is the ratio volumetric heat capacity divided by the thermal conductivity that determines the stable time-step. Your help in this regard will be very much appreciated. The problem is TOP URGENT as the erection of the cladding is blocked until the U-value calculation is submitted. HEAT2 and HEAT3 meet the standard requirements in EN ISO 10211-1 (“Thermal bridges in building construction – Heat flows and surface temperatures – Part1: General calculation methods”). Let me know if you find out anything about this. A. Go to Options/Edit chart in the chart window. 2) Boundary conditions in Heat3 can be defined with functions, but only function of time it seems, I would have been interested in BC where the thermal resistance toward ambient (or flux) is a function of temperature, such as: Q in Watt = dS x Constant x ((T+273.15)^4 – Constant) + dS x Constant x T^0.25 (where dS is cell area). _____ Can I run several problems in a batch mode? Would more memory help (my guess is not)? This means that the number of cells along a corner that is bent inwards exceeds the maximum number 1000. The heat flow for example D1 becomes 11 W/m (0.55 /m,K). Did you receive any request from other customers for such a feature, and would it be hard to implement ? Please tell me I’m being stupid again, and how to do this! When images are saved as BMPs, only MS Paint is able to open them. 4. Have you ever used it for this particular target? Cut the image to the clipboard (see the HEAT2 manual, Section 5.18.3) or 2. There are really no physical scale limitations (lengths could be e.g.between 1E-5 and 1E5 meters). Perhaps chapter 11 “A few tips” in the HEAT2 manual may help you. The volumetric heat capacity C is defined by the specific heat capacity cp times the density. In a STEADY-STATE calculation, the heat capacities do not matter. Step 11: Don’t panic if your phone won't turn on; it is a possibility that the battery was fully discharged for safety. I have tested your heat2 program and have a question about it: Why is the unit of the heat capacity C MJ/m3K and not kJ/kgK ? The number of colors is set to 254 (why won’t Heat accept 256?) and I believe some of the other programs can handle up to 24-bit depth files. 2) Can you work small physical scale models as well as large scale (building) models? Graphic Workshop, Adobe Photoshop, MS Powerpoint, and other programs I’ve tried to use them with (and which normally open BMP files without problems) all report that they cannot be parsed, are damaged, or they open the file and display garbage. Is there a possibility to show two or more charts of recorded “T, points” all at once? The prescribed boundary conditions may only be temperature with surface resistance, or a given heat flow. When I went back to look at my input, I found that I had forgotten to change the capacities – all the materials were set at 10E-6 (nevertheless, it had taken most of 4 days to do the calculation). It should be set to at least 65 000 (“Hi color (16-bit)”). Either you must have a very complex geometry or the input is not quite right. Step 6: Removing the two screws out of the plate, which safeguards the motherboard of your device. Note that the material properties are constant (not a function of temperature). (Given the speed of my computer, and my age, I wonder what is the probability of completing this task in my lifetime?) To speed the process up, I’ve started with a 2 dimensional model, steady state, with the exterior temperature at annual average, to get a starting temperature field. Step 9: If you have removed the screen completely, reconnect the cables such that they are back into place. This requires enough RAM on your system. See the manuals for more info. 200 boxes will use 399 segments. You should make sure that it is not extended by more than half a millimeter. Because of concerns about frost, this model is of little use in our climate. Show graphics for this column. This will show the picture below. We would like to simulate a room with an attached conservatory. Is it possible to simulate the solar radiation or a test reference year ? You can simulate a reference year with temperatures (sinus or stepwise), but not with solar radiation. Another tip is to start with the expected temperature in each given box (especial the areas with high conductivity). See answer 3. One tip in HEAT3 is to count the number of times you press the keys q, w, e to rotate the picture. Yes, the linear thermal transmittance coefficient may be calculated with HEAT2 (2D) and HEAT3 (3D). Yes, you will need n*2-1 segments where n is the number of boxes. However if the soil is not sensible for frost heave the zero isotherm may go beneath the house. It would be possible to implement a heat flux according to you formula. Moisture (increasing capacity), freezing, insulation due to snow, solar heat, and surface resistance are all factors that are not fully accounted for ,and that tend to make the transient calculation conservative. It should be about 1.2 million if we look at the clock rate for the PIII and Athlon (I have made some test on a Athlon 850 which was 1.8 times faster then my PIII 500 for some HEAT2 calculations). Column 2. Rather than fumble about, I decided to run your SLAB file with a mean temperature of 9.4, a period of 1 year, amplitude of 10, and phase of 0, after an initial steady state run without modification. The reason that it took so long time for the slab example is that the heat capacities are not set to correct values for this transient case. When I have problems of this kind with frost heave, I usually start from the steady-state temperature (with the average outdoor mean value) and then continue with transient calculations with a sinusoidal maybe 3-5 years until more or less the same variation is reached. I have made the enclosed input. This means that it is often steel (and other materials with a high ratio) that gives the lowest time-step. Now try to pull up the connectors then remove the device screen. Running for 59m19s of CPU time, ICPS=185425, I managed to simulate only 1m22s of virtual time. I have a question to ‘new’ European standard: Is it possible to calculate ‘linear thermal transmittance’ (EN ISO 14683) at thermal bridges with HEAT-program? _____ Q: I am calculating the enclosed cladding frame edge for a large office tower in Saudi Arabia on HEAT3. Thank you for reminding me of the bearing splay of foundations – I know this but had not related it to this context. to get the same image I had in a previous session. 2. Any idea what’s the problem? _____ Q. If you are interested in temperatures close to the ground at the corners (maybe within 1 meters from the ground surface or so) I think that true 3D calculations are best. Has your Company some Software product fit to my needs? I think that this error will give reults on the safe side; a sudden cold spell will give a larger penetration depth using a less dense grid compare with a more dense grid. I believe that most of the examples have different geometry in 10077-2:2000 compare to 10077-2:1998. Why? Step 1: Switch off the phone by holding the power button, after that slide screen button to the right. In 3D steady state, will the same exterior temperature produce the same corner temperature field as in step 2? 166) of the CEN aluminum window frame (example 1 in prEN ISO 10077-2:1998). The pre-processor can only be used to specify new problems with. A soils consultant has suggested soil with conductivity of 1.4 W/mK and capacity of 2.35 MJ/m3K to represent the local clay till. You might end up with a 5% (or even 10%) numerical error but this should suffice.

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