CHAPTER 4 Compliance Form Completion

Completing Form 600A-04 Method A, the Whole Building Performance Method

GENERAL INFORMATION (Page One)

The following is a line-by-line description of how to complete Form 600A-04. The central Florida version of these forms is used in all illustrations and examples. The multipliers will be different from those on the north and south Florida forms. However, the calculation procedures are the same regardless of the zones.

You may find it easier to complete the top of the first page of Form 600A-04 after you have completed the rest of Form 600A-04. See page 68 for details.

Before submitting the form, fill in all appropriate blanks. Climate zones and jurisdiction numbers can be found in Appendix A of Chapter 13 of the *Florida Building Code*, *Building* or may be obtained from your local permitting office.

If one Method A calculation is used to permit several single- or multiple-family units, check the WORST CASE CALCULATION box. These similar units must be identical in configuration, square footage, materials, etc., but may vary slightly because of optional features such as an extra sliding glass door or a different orientation. Be sure you have calculated the unit that would be the most energy consuming. If more than one unit is covered by the copy, indicate the number of units being covered in the boxes provided.

If you are bringing an addition to an existing building into Code compliance, follow the same procedures as for new construction. In most cases, you will need to calculate only the components of the addition itself and any existing components which separate the addition from unconditioned space. If you cannot comply the addition by either of these methods, you may bring the entire house into compliance, including the addition. See section 13-600.2.A.3 of the Code.

A simpler method for bringing additions containing 600 square feet or less into Code compliance is provided on Form 600C-04. See page 75, for further instructions on how to complete Form 600C-04.

In the following text, you will find words written in both the upper and lower cases. For example, CEILing SUBTotals. This indicates that on the form you will find the words CEIL SUBT to mean ceiling subtotals. This is to help you recognize the abbreviations on the forms.

SUMMER CALCULATION (Pages Two and Three)

Complete the summer calculation on page 2 of Form 600A-04. Take the information from the plans and specifications of the house. See Chapter 3 for a suggested takeoff worksheet and instructions.

There are two parallel calculations. The column on the left refers to a theoretical Baseline or optimized house. The areas for each component (GLASS, WALLS, DOORS, CEILING, FLOOR, and INFILTRATION & INTERNAL GAINS) should be determined from the plans for the house, and then recorded on the form. BASE SUMMER POINT MULTipliers for the Baseline calculation are provided on the form. AREAs should be given in square feet. To perform the Baseline calculation, you will multiply the component AREAs by the BASE SUMMER POINT MULTiplier provided.

The column on the right refers to the As-Built house and should reflect the materials and systems specified on the plans to be installed. The component AREA subtotals in the Baseline and As-Built calculation should be the same, except for the ceiling area which will be discussed later. The SUMMER POINT MULTIPLIERS for the As-Built house will be selected from the tables on pages 3 and 6 of Form 600A-04. To perform the As-Built calculation, multiply the component AREAs by the SUMMER POINT MULTipliers selected from the tables on the form. See the following instructions for each component.

In these calculations, only include envelope components which separate conditioned from unconditioned spaces (not walls, ceilings or floors "common" to two separate tenancies). If you use the Residential Analysis Worksheet to calculate the preliminary information, transfer the information to the appropriate blocks on Form 600A-04 (see Chapter 3). Component areas on Form 600A-04 are the net areas for each building component.

GLASS CALCULATION (Code Section 13-601)

Baseline Calculation. Enter the CONDitioned FLOOR AREA of the house in the Baseline GLASS calculation box in the left-hand column. Multiply the CONDitioned FLOOR AREA by .18 (Baseline is 18 percent glass to floor area) and by the WEIGHTED GLASS MULTIPLIER provided to determine the BASE GLASS SUBTOTAL.

| ASS | .18 X | COND FLOOR X AREA | WEIGHTED GLASS X MULTIPLIER | = BASE GLASS SUBTOTAL |
|-----|-------|----------------------|--------------------------------|--------------------------|
| GL/ | .18 | 1692.3 | 25.78 | 7852.9 |

As-Built Calculation. Calculate the rough opening areas of the glass in square feet. Group glass areas (rough opening in square feet) with the same orientation, window type, and overhang factor together. In additions to existing housing, glass areas being removed or enclosed by the addition may be subtracted from the total glass area of the addition for that orientation. Record on separate lines the GLASS AREAs for different combinations of

orientation, glass type and overhang. Be sure to include the areas of all skylights (horizontal glass (H)), sliding glass doors, and all glass in doors where the glass area is one-third or more the door area (see page 12).

| ORIENTATION | OVERHANG LENGTH | GLASS AREA (SQ FT) X | SINGLE SUMMER POIN | E-PANE OR IT MULTIPLIER | DOUBLE-PANE SPM X | |
|----------------|--------------------|-------------------------|-----------------------|----------------------------|----------------------|--|
| | OH (FEET) | | CLEAR | TINT ² | CLEAR | |
| Ν | 2 | 36.0 | 30.19 | 24.46 | <mark>26.25</mark> | |
| NE | | | 47.10 | 38.88 | 40.99 | |
| E | 2 | 24.0 | 63.97 | 53.27 | <mark>55.69</mark> | |
| SE | | | 61.07 | 50.80 | 53.20 | |
| S | 2 | 24.0 | 48.22 | 39.84 | <mark>41.92</mark> | |
| SW | | | 56.99 | 47.31 | 49.60 | |
| W | 2 | 36.0 | 57.68 | 47.90 | <mark>50.22</mark> | |
| NW | | | 40.72 | 33.43 | 35.45 | |
| H ¹ | | | 109.69 | 89.83 | 96.56 | |
| N | 10 | 53.6 | | | 26.25 | |
| N | 10 | 11.1 | | | 26.25 | |
| E | 2 | 24.0 | | | 55.69 | |
| w | 16 | 40.2 | | | 50.22 | |
| | | | | | | |

When assuming DEFAULT windows (not labeled), circle the SUMMER POINT MULTiplier (SPM) corresponding to the glass type: SINGLE-PANE or DOUBLE-PANE, and CLEAR or TINT. The TINT multipliers may be used for tinted glass, solar screens, solar film (tint or reflective) and permanently installed fixed louvers. If glass with a solar heat gain coefficient (SHGC) of less than 0.70 is used, you may use the SPM for the improved multipliers from Tables 6C-3, 6C-4 and 6C-5 of section 2.1 of Appendix C of Chapter 13 of the Florida Building Code Building (energy code). Where the SHGC claimed is not visually apparent (not typical single or double pane glass), the SHGC claimed must be backed up by an efficiency label on the window that has been determined in accordance with National Fenestration Rating Council (NFRC) procedures. Solar heat gain coefficients claimed for fixed louvers must be certified by a recognized independent testing laboratory or sealed by a Florida licensed architect or engineer. See Chapter 5, "Special Cases: Overhangs."

You may select SUMMER OVERHANG FACTORS by either Overhang Ratio or Overhang Length from Table 6A-1 on page 3 of the form. See pages 37 and 38 of this manual for additional instruction on overhang measurements and qualifying criteria.

| BΥ | OH ratio | .00- | .12- | .18- | .27- | .36- | .47- | .58- | .71- | .84- | 1.19- | 1.73- | 2.74 |
|------|-----------|------|-------|-------|-------|--------------------|--------------------|-------|-------|-------|--------------------|-------|--------------------|
| | | .11 | .17 | .26 | .35 | .46 | .57 | .70 | .83 | 1.18 | 1.72 | 2.73 | & up |
| CT | North | 1.00 | 0.992 | 0.971 | 0.931 | 0.891 | <mark>0.848</mark> | 0.811 | 0.776 | 0.748 | <mark>0.695</mark> | 0.651 | <mark>0.611</mark> |
| Щ | Northeast | 1.00 | 0.995 | 0.966 | 0.908 | 0.846 | 0.777 | 0.719 | 0.665 | 0.623 | 0.549 | 0.491 | 0.445 |
| SELI | East | 1.00 | 0.993 | 0.964 | 0.903 | <mark>0.835</mark> | <mark>0.755</mark> | 0.687 | 0.622 | 0.571 | 0.482 | 0.414 | 0.463 |
| | Southeast | 1.00 | 0.999 | 0.956 | 0.871 | 0.786 | 0.700 | 0.635 | 0.580 | 0.540 | 0.478 | 0.436 | 0.407 |
| | South | 1.00 | 0.988 | 0.935 | 0.849 | <mark>0.776</mark> | 0.708 | 0.659 | 0.618 | 0.588 | 0.539 | 0.503 | 0.475 |
| | Southwest | 1.00 | 0.997 | 0.956 | 0.874 | 0.793 | 0.709 | 0.645 | 0.588 | 0.547 | 0.479 | 0.431 | 0.396 |
| | West | 1.00 | 0.994 | 0.964 | 0.902 | 0.834 | <mark>0.757</mark> | 0.691 | 0.630 | 0.582 | 0.500 | 0.438 | 0.391 |
| К | Northwest | 1.00 | 0.995 | 0.966 | 0.911 | 0.857 | 0.798 | 0.751 | 0.708 | 0.674 | 0.616 | 0.570 | 0.532 |
| 0 | OH Length | 0.0' | 1.0' | 1.5' | 2.0' | 3.0' | 3.5' | 4.5' | 5.5' | 6.5' | 9.5' | 14.0' | 20.0' |

6A-1 SUMMER OVERHANG FACTORS (SOF) FOR SINGLE AND DOUBLE-PANE GLASS

To select by overhang length, no part of glass shall be more than 8 ft. below the overhang.

| | | ORIENT OVERHANG GLASS SINGLE-PANE ATION LENGTH AREA SPM | | M | DOUBLE PANE | SUMMER OH FACTOR | AS-BUILT GLASS | | |
|-------|-----------|--|-----------|--------------|----------------|-------------------------|--------------------|-------------|-------------|
| | | | OH (FEET) | (SQ.FT) X | CLEAR | OR TINT ² | SPM X CLEAR | (FROM 6A-1) | =SUMMER PTS |
| | | N | 2 | 36.0 | 30.19 | 24.46 | 26.25 | .848 | 801.4 |
| | | NE | | | 47.10 | 38.88 | 40.99 | | |
| | | E | 2 | 24.0 | 63.97 | 53.27 | <mark>55.69</mark> | .755 | 1009.1 |
| | | SE | | | 61.07 | 50.80 | 53.20 | | |
| | | S | 2 | 24.0 | 48.22 | 39.84 | <mark>41.92</mark> | .776 | 780.7 |
| | | SW | | | 56.99 | 47.31 | 49.60 | | |
| GLASS | | w | 2 | 36.0 | 57.68 | 47.90 | <mark>50.22</mark> | .757 | 1368.6 |
| GL | | NW | | | 40.72 | 33.43 | 35.45 | | |
| | OVERHANG | H ¹ | | | 109.69 | 89.83 | 96.56 | | |
| | RATIO = | | | | | | | | |
| | OH LENGTH | N | 10 | 53.6 | | | 26.25 | .695 | 977.9 |
| | OH HEIGHT | N | 10 | 11.1 | | | 26.25 | .611 | 178.0 |
| | | | | | | | | | |
| | | E | 2 | 24.0 | | | 55.69 | .835 | 1116.0 |
| | | | | | | | | | |
| | | w | 16 | 40.2 | | | 50.22 | .438 | 884.2 |
| | | | | | | | | | |

| AS-BUILT GLASS | |
|----------------|--|
| SUBTOTAL | |
| 7115.9 | |

Record on the calculation line the GLASS AREA, SUMMER POINT MULTiplier, and SUMMER OVERHANG FACTOR which correspond to each combination. Multiply the GLASS AREA, SUMMER POINT MULTiplier, and SUMMER OVERHANG FACTOR as shown on the form to obtain the AS-BUILT GLASS SUMmer PoinTS. Sum all the AS-BUILT GLASS SUMmer PoinTS and write this number in the AS-BUILT GLASS SUBTOTAL box.

COMPONENTS OTHER THAN GLASS (Walls, Doors, Ceilings, Floors)

The boxes in the center of page 2 address other components of the building envelope: WALLs, DOORS, CEILINGs and FLOORs.

Baseline Calculation. Enter the net areas for each component in the AREA column. Multiply the AREAs by the BASE SUMMER POINT MULTiplier provided on the form. Treat exterior and adjacent components separately. See pages 6 and 2 for definitions of exterior and adjacent.

| COM | PONENT DESCRIPTION | | AREA | X | BASE SUMMER POINT MULT. | = BASE SUMMER POINTS | | | |
|---------|---|------|---------|-----|----------------------------|-------------------------|--|--|--|
| | EXTERIOR | | 1171.1 | | 1.9 | 2225.1 | | | |
| WALL | ADJACENT | | 191.4 | | .7 | 134.0 | | | |
| /M | | | | | | | | | |
| ~ | EXTERIOR | | 21.6 | | 4.8 | 103.7 | | | |
| DOOR | ADJACENT | 19.0 | | | 1.6 | 30.4 | | | |
| | | | | | | | | | |
| U | UNDER ATTIC OR | | 1692.3 | | 2.13 | 3604.6 | | | |
| CEILING | SINGLE ASSEMBLY | | | | | | | | |
| CE | | | 5405 05 | | | | | | |
| | | | | | REA EQUALS FLOOR AREA | | | | |
| ₽ | SLAB (PERIMETER) RAISED (AREA) | | 206 | 5.5 | -31.8 | -6566.7 | | | |
| 00 | | | | | -3.43 | | | | |
| | | | | | | | | | |
| | FOR SLAB-ON-GRADE USE PERIMETER LENGTH AROUND CONDITIONED | | | | | | | | |

As-Built Calculation. Write a brief description of each component in the COMPONENT DESCRIPTION column. Include the material and efficiency level.

Enter the net areas for each component in the AREA column. The AREA for each component, except for the ceiling in certain cases, should be the same as the AREAs for the components of the As-Built house. For example, the area entered for baseline exterior walls should equal the sum of all exterior wall areas entered for the As-Built house, regardless of material and insulation level.

| COMPONENT DESCRIPTION | AREA X | SUMMER POINT MULT. | = AS-BUILT SUMMER POINTS |
|----------------------------------|---------------------------|-----------------------|-----------------------------|
| Ext. Block R-3 | 1123.1 | 1.4 | 1572.3 |
| Ext. Frame R-11 | 48.0 | 1.9 | 91.2 |
| Adý. Frame R-11 | 191.4 | .7 | 134.0 |
| | | | |
| Ext. Wood Door | 21.6 | 7.2 | 155.5 |
| Adj. Wood Door | 19.0 | 2.4 | 45.6 |
| | | | |
| Under Attic R-30 | 1692.3 | 2.13 | 3604.6 |
| RBS/IRCC/white roof ³ | | | |
| AS-BUILT CEILING AREA EQU | ALS ACTUAL CEILING SQUARE | FOOTAGE. | |
| Slab on grade R-0 | 206.5 | -31.9 | -6587.4 |
| | | | |
| FLOOR, FOR RAISED FLOOR | S USE AREA OVER UNCONDITI | ONED SPACE. | · |

Select the SUMMER POINT MULTIplier that corresponds to the type and efficiency level for each component from Tables 6A-2 through 6A-5 on page 3 of the form.

| Walls | Table 6A-2 |
|---------|--------------|
| Doors | Table 6A-3 |
| Ceiling | . Table 6A-4 |
| Floor | .Table 6A-5 |

The R-values referenced on Tables 6A-2 through 6A-5 are for added insulation and, in certain wall configurations, for reflective air spaces. If two or more different applications of insulation are used in the same component, add the R-values together for the total R-value level. Do not include the R-value of structural materials such as concrete blocks, sidings, decking, etc. in the R-value calculation. Multiply the AREA of each component of the As-Built house by the SUMMER POINT MULTIplier you have selected from the tables to obtain the AS-BUILT SUMMER POINTS for each component. Following are special instructions for each component.

Walls (Code Section 13-602)

The AREA entered should be the total area of each wall category identical by construction type, insulation level, and position (EXTERIOR or ADJACENT) minus all doors and windows located in those walls.

EXTERIOR WALLs separate the conditioned space from outside air. ADJACENT WALLs separate conditioned space from enclosed but unconditioned space, such as garages, utility rooms, and unconditioned "Florida" rooms.

Common walls separate conditioned tenancies from other conditioned spaces. Do not include common walls in either the Baseline or As-Built house calculation. The Code requires that all frame common walls be insulated to a minimum R-11 and masonry common walls to R-3 on each side of the wall.

Include in the *ceiling* calculation walls separating conditioned space from attics such as knee walls or the walls of skylight shafts. See page 44 and Chapter 5, "Special Cases: Non-Rectangular Walls".

SUMMER POINT MULTIPLIERS for walls may be found on Table 6A-2 on Form 600A-04. Walls are described as either FRAME (Wood or Steel), CONCRETE BLOCK, FACE BRICK (on Wood Frame or Block) or LOG (6 inch or 8 inch logs). CONCRETE BLOCK walls are further subdivided into INTerior INSULATION or EXTerior INSULation. Interior or exterior insulation refers to the placement of the insulation in relation to the block wall. For lighter weight concrete blocks see section 2.2 of Appendix C of Chapter 13 of the *Florida Building Code, Building*. Choose the multiplier from the category which best describes the wall type. For wall types other than those described, contact the Department of Community Affairs at (850) 487-1824 for clarification on how to treat them.

Doors (Code Section 13-603)

DOORS located in exterior walls are EXTERIOR doors. DOORS located in adjacent walls are ADJACENT doors. Enter the rough opening area for each door.

SUMMER POINT MULTIPLIERS may be found on Table 6A-3 for either WOOD or INSULATED doors.

Ceilings (Code Section 13-604)

Unlike the other Baseline and As-Built component areas, the ceiling Baseline and As-Built component areas may not be equal. These areas will be equal if the house has no sloped ceilings, knee walls or skylights. These areas will not be equal if the house has any of these design features.

Baseline Calculation. The Baseline ceiling is always assumed to be a non-sloping ceiling. This means that the Baseline ceiling area will always be equal to the floor area immediately under the ceiling. Even if the house has sloped ceilings, knee walls or skylights, this is true. In a two story house, the Baseline ceiling area is equal to the floor area of the second story. The first floor area is not included.

As-Built Calculation. The As-Built ceiling AREA is the *actual* area of the ceiling which divides the conditioned space from the unconditioned space. The areas of sloped ceilings, such as cathedral and vaulted ceilings, knee walls and skylight shafts, are included. In these cases, the As-Built ceiling area will be greater than the Baseline ceiling area. See Chapter 5, "Special Cases" for help with calculating non-rectangular walls and sloped ceilings.

Obtain the ceiling Summer Point Multiplier (SPM) from Table 6A-4 on Form 600A-04. Ceilings may be UNDER ATTIC, SINGLE ASSEMBLY or CONCRETE DECK ROOF. A single assembly roof is one where the insulation is up between the roof joists and has no attic space. Roofs with scissors trusses generally have attics and are considered to be the UNDER ATTIC condition.

Where a RADIANT BARRIER SYSTEM (RBS), INTERIOR RADIATION CONTROL COATING or a WHITE ROOF is installed in one of the approved configurations in section 13-607.1.A.4 or section 13-607.1.A.5 of the Code, respectively, and all prescriptive requirements have been met, a radiant barrier credit, IRCC or white roof credit should be calculated on the **ceiling** load of the building. The second line down in the As-Built ceiling calculation has an "x_" space to insert the radiant barrier, IRCC or white roof credit multiplier from Table 6A-4 on page 3. Use this line to calculate the As-Built ceiling load: Multiply the As-Built ceiling AREA by the SPM for the UNDER ATTIC condition with the level of insulation to be installed, and then by the credit multiplier for the alternate technology utilized to obtain As-Built ceiling Summer Points. The calculation is the same for the winter condition on pages 4 and 5.

Floors (Code Section 13-605)

If the FLOOR is SLAB-on-grade, calculate the perimeter (in linear feet) around the conditioned space. Enter this measurement on both the Baseline and As-Built sides of the calculation. For RAISED floors, use the conditioned floor area over unconditioned space in square feet. <u>Do not include the areas of floors over conditioned space</u>. See page 42.

SUMMER POINT MULTIPLIERS for floors may be found on Table 6A-5 on page 3 of Form 600A-04. Floor options include SLAB-ON-GRADE, RAISED CONCRETE, and RAISED WOOD. RAISED WOOD is further subdivided into POST OR PIER CONSTRUCTION, STEM WALL W/UNDER FLOOR INSULATION, and ADJACENT. For stem wall floors with stem wall insulation multipliers see section 2.5, Table 6C-12, in Appendix C of Chapter 13 of the *Florida Building Code, Building*. Sections 13-602.1.A.1 and 13-602.1.A.2 give these floor types. Adjacent floors separate conditioned space from unconditioned but enclosed space. A second story floor over a garage is an example of an adjacent floor. Until adjacent concrete floor multipliers can be developed, use the multipliers for exterior raised concrete floors for adjacent concrete floors.

Infiltration & Internal Gains (Code Section 13-606)

Infiltration is the leakage of air into and out of a house through openings in the building envelope. See Figure 14. How much energy is needed to cool or heat a home depends on how leaky it is, the temperature of the replacement air (where it is being drawn from), and what the pressure differentials are in and on the house. To minimize the effects of air infiltration, the Code mandates that the building be sealed against excessive infiltration. Minimum requirements for air infiltration control are given in section 13-606.1.ABC.1 of the Code, which all conditioned buildings must meet.

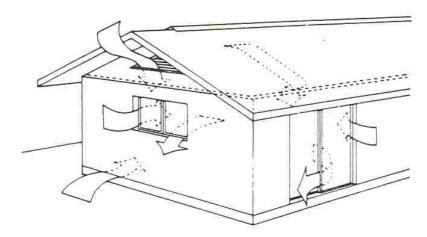


Figure 14. Infiltration

INTERNAL GAINS typically are the cooling load added to a building by people and appliances. Every time someone takes a shower or cooks dinner, hot moist air is added to the cooling load of the building. Because internal gains are also the same for both the Baseline and As-Built condition, they have been combined with the INFILTRATION load and the same multiplier representing this combined load have been added to both sides of the equation.

The INFILTRATION & INTERNAL GAINS As-Built multiplier is the same as the Baseline multiplier and is already on the form; it was left in Table 6A-6 for informational purposes only.

| INFILTRATION | 1692.3 | 14.31 | 24,216.8 | | 1692.3 | 14.31 | 24,216.8 |
|---------------------|--------|-------|-----------------|---------------|--------------|-------|----------|
| & INTERNAL GAINS | | | USE TOTAL FLOOP | R AREA OF CON | DITIONED SPA | CE | |

The AREA used to calculate the effects of air INFILTRATION & INTERNAL GAINS is the total conditioned floor area of the house. See Chapter 3, "Step 2: Conditioned Floor Areas." This number will be the same as the CONDitioned FLOOR AREA used in the glass calculation.

A summarized list of Code requirements for infiltration control (section 13-606.1.ABC.1) is printed on Table 6A-24 on page 6 of Form 600A-04. Check all applicable blocks on Table 6A-24 to show intent to comply with the infiltration control requirements.

TOTAL COMPONENT POINTS

You are now ready to total the component points for the Baseline and the As-Built house. Arrows on the form show the calculation path flow.

Baseline Calculation. Add all the BASE SUMMER POINTS beginning with the box titled BASE GLASS BASE SUBTOTAL near the center of page 2 and including all BASE SUMMER POINTS for WALLS, DOORS, CEILINGS, FLOORS, and INFILTRATION & INTERNAL GAINS. Enter the total in the box titled TOTAL COMPONENT BASE SUMMER POINTS.

As-Built Calculation. Add all the AS-BUILT SUMMER POINTS on the right side of the form, beginning with the box titled AS-BUILT GLASS SUBTOTAL and including the AS-BUILT SUMMER POINTS for WALLS, DOORS, CEILINGS, FLOORS, and INFILTRATION & INTERNAL GAINS. Enter this total in the box titled TOTAL COMPONENT AS-BUILT SUMMER POINTS.

COOLING SYSTEM (Code Section 13-607)

To calculate the total cooling points, complete the calculations in the row of boxes labeled COOLING SYSTEM on page 2.

Baseline Calculation. A BASE COOLING SYSTEM MULTIPLIER for the Baseline condition is already printed on the form. Copy the TOTAL COMPONENT BASE SUMMER POINTS from the line above into the box titled TOTAL BASE SUMMER POINTS. Multiply as shown and enter the product in the box titled BASE COOLING POINTS.

| TOTAL COMPONENT BAS | E SUMMER POINTS | 3 | 1,601 | |
|---------------------|-----------------------------------|------|--------------------------|--------------------------|
| COOLING SYSTEM | BASE COOLING SYSTEM MULTIPLIER | ΤΟΤΑ | AL BASE SUMMER POINTS | = BASE COOLING POINTS |
| | .43 | | | 13,588.3 |

As-Built Calculation. Multiply the TOTAL COMPONENT AS-BUILT SUMMER POINTS by three factors selected from tables on pages 3 and 6 to obtain the AS-BUILT COOLING POINTS. These three factors are:

- + Duct design and insulation;
- + Cooling equipment design and efficiency; and
- + Cooling credits.

First, copy the TOTAL COMPONENT AS-BUILT SUMMER POINTS from the line above into the box labeled TOTAL AS-BUILT SUM. PTS. Select the As-Built DUCT MULTIPLIER from Table 6A-8 on page 3 and enter it in the box titled AS-BUILT DM. If the cooling system has no ducts, enter 1.0. See Chapter 3, "Step 6: Duct Systems" for additional information on ducts. An estimate of duct length is requested in the FLA/RES computer program for use as an estimate of the percentage of each type of duct used in multiple system homes.

Select the COOLING SYSTEM MULTIPLIER (CSM) for the type and efficiency of the cooling system from Table 6A-9 on page 3. Enter in the box titled AS-BUILT CSM. Cooling equipment efficiency levels may be obtained from the supplier, the manufacturer, or industry directories. See the "Equipment Efficiency Directories List" in the Appendix to this manual. If you don't know the efficiency of the equipment to be installed, you may assume a Code minimum of 10.0 SEER for central systems.

No Cooling System. If you do not plan to install a cooling system, use a CSM of 0.34. This "assumes Baseline" (a 10.0 SEER central system) and does not help or penalize the As-Built side of the cooling equation. The cooling side of the calculation <u>may not</u> be omitted if no cooling is planned.

If you are taking the Airtight Duct Credit, use the 1.0 multiplier on the form. Taking this credit requires you to have a duct test done on the duct system to prove that the system has achieved no more than 5% air leakage from the ducts. If no duct test is planned, use the other DSM multiplier listed on the form (in Central Florida this is 1.15 for summer and 1.16 for winter).

If all the criteria are met for any credit item or system, enter the Cooling Credit Multiplier (CCM) from Table 6A-19 in the box titled AS-BUILT CCM. See Chapter 3, "Step 6: Cooling Credit" and section 13-607.1.A of the Code for the criteria to be met for each type of credit multiplier. Except where dual credit may *not* be claimed, multiply the CCM's of multiple credit options taken together to obtain one CCM to enter in the box. If no credit is claimed, enter 1.0 or leave it blank. Multiply the numbers as shown on the form to obtain the total AS-BUILT COOLING POINTS.

| TOTAL COMPO | ONENT AS-BUIL | | 30,34 | 8.5 | | | | | |
|--------------------------------|-------------------------------------|--------------------------|-------|-----|--|--|--|--|--|
| TOTAL AS-BUILT SUM. PTS. | AS-BUILT DM DSM AHU CSM CCM COOLING | | | | | | | | |
| 30,348.5 | | <mark>1.15</mark> or 1.0 | | | | | | | |

HOT WATER CALCULATION (Code Section 13-612)

Use the last row of boxes on page 2 of Form 600A-04 to calculate hot water points.

Baseline Calculation. Enter the NUMBER OF BEDROOMS in the house in the first box. See definition of bedroom on page 3 of this manual. Multiply the NUMBER OF BEDROOMS by the BASE HOT WATER MULTIPLIER provided. Record the product in the box titled BASE HOT WATER POINTS.

| HOT WATER SYSTEM | NUMBER OF X | BASE HOT WATER | = BASE HOT WATER |
|------------------|-------------|----------------|------------------|
| | BEDROOMS | MULTIPLIER | POINTS |
| | 4 | 2460 | 9,840 |

As-Built Calculation. Write a short description of the system(s) in the AS-BUILT HOT WATER SYSTEM DESCription block. Enter the NUMBER OF BEDROOMS. The NUMBER OF BEDROOMS must be the same as the number used in the Baseline calculation.

Select the As-Built HOT WATER MULTIPLIER (HWM) from Table 6A-22 on page 6 of the form that corresponds to the type and efficiency of the water heater. Obtain the equipment efficiency from the supplier, manufacturer, or industry directories. See the "Equipment Efficiency Directories List" in the Appendix of this manual. The water heater may be ELECTRIC RESISTANCE, NATURAL GAS, LP GAS, or DEDicated Heat Pump or SOLAR with Tank. Enter the Hot Water Multiplier in the box titled AS-BUILT HWM.

If credit is being claimed for an ADD-ON SOLAR WATER HEATER or ADD-ON DEDICATED HEAT PUMP (without tank) or HEAT RECOVERY UNIT water heater, select the HOT WATER CREDIT MULTIPLIER (HWCM) that corresponds to the system from Table 6A-23 (page 6) of the form. Enter the Hot Water Credit Multiplier in the AS-BUILT HWCM block.

Heat recovery units require documentation as to their efficiency. See pages 8 and 34 or section 13-612.2.A.3.1 of the Code for more details. When a Hot Water Credit Multiplier is used, a HOT WATER MULTIPLIER from Table 6A-23 on Form 600A-04 also must be shown. When more than one credit water heating system is installed, credit may only be claimed for one system.

If you are not using a credit system, enter 1.0 in this box or leave it blank. Multiply the numbers as specified and enter the product in the box titled AS-BUILT HOT WATER POINTS.

| AS-BUILT HOT WATER SYSTEM DESC. | Number of x bedrooms | As-built HWM x (6A-22) | As-built HWCM x (6A-23) | = AS-BUILT HOT WATER POINTS |
|---------------------------------------|--------------------------------|----------------------------------|-----------------------------------|--------------------------------|
| Electríc .92 EF | 4 | 2479 | | 9,916 |

| 6A-22 HOT V | VATER MI | JLTIPLIEF | <u>RS (HWM)</u> | | | | | | | | | |
|---|----------|-----------------------------|-----------------|------|------|------|------|------|------|-------------------|------|-------|
| SYSTEM TYPE See Table 13-612.1.ABC.3.2 for | | HOT WATER MULTIPLIERS (HWM) | | | | | | | | | | |
| code minimums | | | | | | | | | | | | |
| Electric | EF | | | | .80- | .82- | .84- | .86- | .88- | .91- | .94- | .97 & |
| Resistance | | | | | .81 | .83 | .85 | .87 | .90 | .93 | .96 | Up |
| | HWM | | | | 2820 | 2752 | 2685 | 2624 | 2564 | <mark>2479</mark> | 2400 | 2326 |
| Natural Gas | EF | .43- | .48- | .50- | .52- | .54- | .56- | .58- | .60- | .62- | .64- | .66 & |
| | | .47 | .49 | .51 | .53 | .55 | .57 | .59 | .61 | .63 | .65 | Up |
| | HWM | 2162 | 1936 | 1859 | 1787 | 1721 | 1660 | 1602 | 1547 | 1499 | 1452 | 1408 |
| LP Gas | HWM | 2645 | 2368 | 2274 | 2186 | 2106 | 2031 | 1960 | 1895 | 1834 | 1776 | 1722 |
| Ded. HP or | EF | 1.0- | 1.5- | 2.0- | 2.5- | 3.0- | 3.5- | 4.0- | 4.5- | 5.0 & | | |
| Solar System | | 1.49 | 1.99 | 2.49 | 2.99 | 3.49 | 3.99 | 4.49 | 4.99 | Up | | |
| with Tank | HWM | 2256 | 1504 | 1128 | 902 | 752 | 645 | 564 | 501 | 451 | | |

WINTER CALCULATION (Pages Four and Five)

Complete the winter calculation on page 4 of Form 600A-04. The method of calculation is the same as for the summer calculation. The AREAs for both the Baseline and As-Built Winter calculations will be identical to the AREAs for the Baseline and As-Built Summer calculations.

Baseline Calculation. The column on the left side of page 4 is for the Baseline calculation. Multipliers for the Baseline calculation are provided on the form.

As-Built Calculation. The column on the right side is for the As-Built calculation. Select multipliers for the As-Built house from the appropriate tables on page 5 of Form 600A-04 for GLASS, WALLS, DOORS, CEILINGS, FLOORS, INFILTRATION & INTERNAL GAINS, and DUCTS.

Heating system multipliers (HSM) are on Table 6A-18 of page 5 of the form and credit multipliers (HCM) are on page 6 of the form. See pages 52 and 53 of this manual or section 13-608.1.A of the Code for HEATING CREDIT system criteria. If you do not plan to install a heating system, use a HSM of 0.50

Proceed as you did on page 2 of the form. Calculate the GLASS and other component points; then calculate the BASE HEATING POINTS and AS-BUILT HEATING POINTS. The equipment efficiency may be obtained from the equipment supplier, the manufacturer, or industry directories. See the "Equipment Efficiency Directories List" in the Appendix to this manual. Care should be taken when dealing with negative numbers.

CODE COMPLIANCE

Use the last row of boxes titled TOTAL on page 4 to calculate the TOTAL BASEline POINTS and TOTAL AS-BUILT POINTS.

Baseline Calculation. Enter the BASE COOLING POINTS from page 2, the BASE HEATING POINTS from page 4, and the BASE HOT WATER POINTS from page 2. Add these numbers together to obtain the TOTAL BASE POINTS.

As-Built Calculation. Enter the AS-BUILT COOLING POINTS from page 2, the AS-BUILT HEATING POINTS from page 4, and the AS-BUILT HOT WATER POINTS from page 2. Add these numbers together to obtain the TOTAL AS-BUILT POINTS. If the **TOTAL AS-BUILT POINTS are less than the TOTAL BASE POINTS, the house will comply with the Code.**

PAGE ONE COMPLETION

Administrative Information. CLIMATE ZONE and JURISDICTION NO. -- This information can be found in Appendix A of the Chapter 13 of the *Florida Building Code*, *Building* (the energy code) or you can ask someone at the building department.

1. New construction or addition -- Specify whether the building being permitted is to be newly constructed or an addition to conditioned space.

2. Single family detached or Multiple-family attached -- Specify which. For purposes of the energy code, a multiple-family attached building is any residential living unit (tenancy) that is connected to another structure by a common wall, ceiling or floor. A duplex, townhouse, condominium, or similar unit is an example of a multiple-family building.

3. If multiple-family -- Number of units covered by this submission -- Specify how many units will be constructed. If more than one unit of a multiple-family building is covered by the copy being submitted, give the number of units being covered in the boxes provided.

4. Is this a worst case -- Yes or No. To be considered a Worst Case, the units must be identical in configuration, square footage, materials, etc. but may vary slightly because of optional features such as an extra sliding glass door or a different orientation. Be sure you have calculated the unit that will be the most energy consuming.

5. Conditioned floor area -- Enter the total conditioned floor area. This should be the same as the area calculated in Table 5 of Step 2, Residential Analysis Worksheet (see Chapter 3).

Envelope and Equipment. On page one, type the information on each line that reflects the areas, materials and equipment to be used in construction. These values must be the same as those given on pages 2 and 4. Non-applicable lines should be left blank.

6. Predominant eave overhang -- Give the most common eave projection used in the glass calculations.

7. Glass type and area --

a. Enter the U-factor or DEFAULT single or double pane of the predominate glass type and the glass area on line 7a.

b. Enter the SHGC or DEFAULT clear or tint of the predominant glass type and the glass area in line 7b.

8. Floor type and insulation --

a. Slab-on-grade -- Enter the slab perimeter and R-value of the slab edge insulation. b,c. Raised wood or Raised concrete over unconditioned space-- Enter the square footage of the floor, and the R-value of the floor insulation. 9. Net wall type, area and insulation-- Enter the wall insulation R-value and area for each wall type. Specify the predominant R-value of wall insulation for each type of exterior and adjacent wall used in the building.

10. Ceiling type, area and insulation -- Enter the insulation R-value to be installed and the area covered for each ceiling type in the spaces provided. Specify if a radiant barrier system, IRCC or white roof will be installed.

11. Air distribution system -- Enter the R-value of insulation for the ducts and the location of the ducts and air handler.

12. Cooling system -- Enter the type of cooling system to be installed on line 12a. Circle the appropriate rating scale (SEER, EER, COP) and enter the efficiency rating of that system on line 12b. Enter the capacity of that unit (in Btu/h) on line 12c. Where multiple cooling units are installed, enter information on the largest capacity unit.

13. Heating system -- Enter the type of heating system to be installed on line 13a. Circle the appropriate rating scale (HSPF, COP, AFUE) and enter the efficiency rating for that system on line 13b. Enter the capacity (in Btu/h) of the system on line 13c.

14. Hot water system -- Enter the type of water heating system to be installed on line 14a and the Energy Factor (EF) of the system on line 14b.

15. Hot water credits --

a. If an HRU is to be installed, specify whether it will be used with an air conditioner or heat pump.

b. If a dedicated heat pump is to be installed, specify its Energy Factor (EF).

c. If a solar water heater is installed, specify its EF if it has one.

16. HVAC credits -- Enter the two-letter designation for the type of cooling or heating credit system(s) to be installed.

17. Compliance status. Enter the TOTAL AS-BUILT POINTS and TOTAL BASE POINTS from page 4 on line 17a and 17b, respectively. If the As-Built points are less than or equal to the Baseline points, the house complies with the Code.

Code Compliance Certification and Enforcement

1. PREPARED BY -- The person who prepares the Code compliance form for the building owner must sign on the PREPARED BY line to indicate that the form, as completed, and based on the plans and specifications provided for the building, complies with the energy code.

2. OWNER AGENT -- The building's owner, or legally authorized agent, must sign on the OWNER AGENT line to certify that the building, as designed, is in compliance with the energy code.

NOTE: If a change is made to the building that is less efficient than the feature claimed, a revised energy code form must be submitted to the building department.

3. BUILDING OFFICIAL -- The Building Official, or his/her duly authorized representative, must sign on the BUILDING OFFICIAL line to indicate that the form has been found to be complete and without gross errors, and that the building will be inspected for compliance with efficiencies claimed on the form.

4. REPORTING FORM -- An extra copy of the front page of the front page of the code compliance form should be submitted to the building department when a permit is pulled for reporting purposes.

COMPLETING PAGE 6: Prescriptive Requirements.

Tables 6A-24 and 6A-25 on page 6 of Form 600A-04 summarize certain prescriptive Code requirements that must be met, where applicable. Infiltration control criteria, equipment minimum efficiencies, maximum flow rates, etc. are treated with specific requirements in the Code. Review the requirements on these two tables and check the boxes on the far right to indicate that the requirements will be met.

FORM SUBMISSION

When you have completed the Form 600A-04, sign and date the blocks labeled OWNER/AGENT. Check with your local building department to find out exactly how many copies of Form 600A-04 they require. Submit one original and at least one copy to the local building department. Once the forms have been reviewed for completeness and accuracy, they should be signed by the building official (or his/her representative). See page 60 for instructions on how to complete the EPL Display Card, which must be submitted to the building department with the Code compliance forms; this form must be checked by the building department for consistency with the Form 600A or 600B submitted for Code compliance and is returned to the builder to become a part of the documents of sale.

SPECIAL INSTRUCTIONS FOR ADDITIONS

Additions to existing residential buildings may comply with the Code in one of two ways:

- + The addition may comply by itself, using only the component of the addition; or,
- + The whole house, including the addition may comply.

If you are complying the addition by itself using Method A of Subchapter 6, follow the same procedures as new construction with the following exceptions:

- 1. Calculate only the components of the addition itself and any existing components that separate the addition from unconditioned space.
- 2. Heating and cooling system multipliers should be equal to the baseline system multiplier divided by 1.10, unless new equipment is installed to replace existing equipment or to service the addition specifically.
- 3. The multiplier for any new ductwork to supply the addition must be used in the calculation.
- 4. Water heating is not included unless a supplemental water heater is installed to service the addition, an existing water heater is replaced, or a gas, solar, heat recovery, or dedicated heat pump system is installed to gain credit.

If you wish to perform the energy calculation for the entire house, all R-value assumptions and equipment efficiency claims for the existing house must be supported. See section 13-101.4.2.1 of the Code for details.

For an addition to be exempt from compliance with the Code, it must be neither heated nor cooled by mechanical means, and the exempted area must be fully separated from the conditioned area by walls or doors.

FORM 600A-04 AS A DESIGN TOOL

The lower the As-Built points, the more energy efficient the house. The Form 600A-04 calculation compares the house to be built with a house of the same size, configuration and orientation built to cost effective Baseline specifications. By varying the level of insulation for different house components, the width of overhangs, or the heating and cooling system efficiency levels, then comparing the points for the options tried, you can get a good picture of which options will save the most energy. By comparing the additional cost of each option with the number of points saved by those options, you can evaluate the relative cost of each option. However, keep in mind that this calculation does not consider factors that cannot be controlled by the builder and that may change over time, such as lifestyle differences, number of occupants, or the shading effect of trees.

There is also an energy analysis tool available called the Florida Energy Gauge Rating. This rating is performed by certified Building Energy Rating System raters and considers a wider spectrum of appliances, lighting, etc. that are not considered in the energy code calculation. Contact the EnergyGauge Hotline at (321) 638-1492 or see the EnergyGauge web site at www.fsec.ucf.edu for information and a list of certified raters.

Completing Form 600B-04 Method B, the Component Prescriptive Method

Form 600B-04 is used to demonstrate Code compliance by Method B, the Component Prescriptive Method. Method B is an alternative to Method A that requires that certain minimum features be met or exceeded. Unlike the Whole Building Performance Method, no annual energy calculation is required. Method B may be used to demonstrate Code compliance for single family residential buildings and multiple-family residences of three stories or less in height.

On Form 600B-04, the prescriptive requirements vary for north (zones 1, 2, 3), central (zones 4, 5, 6), and south (zones 7, 8, 9) Florida. Be sure you have the proper form for the zone in which the house will be built. No substitutions or variations less than the established levels are permitted. However, where the multiplier for an alternative component on Form 600A-04 is lower (better) than the multiplier of the prescribed component, the alternative component may be used to comply with the package. In addition, all applicable minimum requirements given in the Code for Method B (summarized in Table 6B-2 of each form) must be met.

On Form 600B-04 several pre-packaged lists of minimum construction requirements (prescriptives) are given. To comply with the Code using this method, the builder or owner must meet or exceed all prescriptive requirements for one of the packages. Form 600B-04 may be used only for construction options specified in the compliance packages. If the building cannot meet these requirements, use Method A, the Whole Building Performance Method to bring the building into Code compliance.

Form 600B-04 compliance packages were developed for wood frame and masonry construction with specific characteristics. If your house incorporates any of the following systems or materials, you cannot comply by Method B:

- 1. Steel stud or log walls (Face brick on wood frame or masonry walls are acceptable.
- 2. Single assembly roof/ceiling construction (See page 47 for the definition of ceilings under attic.);
- 3. Skylights or other non-vertical roof glass;
- 4. Glass areas where the total is equal to a value greater than 25% of the conditioned floor area;
- 5. Houses (except additions) which are heated or cooled but not both; and
- 6. Electric resistance (strip) space heat in north Florida climate zones (allowed in central and south zones).

Residential buildings containing any of the elements listed above will need to comply by Method A. Also, only one package per climate zone allows use of raised wood floors without continuous stem walls. Any additions may comply in a similar manner to other new construction. See "Special Instructions for Additions", pages 70-71. Additions containing

600 square feet or less of conditioned space may find it easier to comply with the Method C of the Code using Form 600C-04. For further information see page 75, "Completing Form 600C-04." Sample calculations on Forms 600B-04 and 600C-04 are provided in the Appendix to this manual.

Form 600B-04 - Page 1

At the top of page 1 you will find GENERAL DIRECTIONS about completing page 2. Read and follow these instructions carefully.

The instructions for completing page 1 of Form 600B-04 parallel those for completing page 1 of Form 600A-04 (see pages 68 to 70) with a few exceptions as described below. However, it is advisable to complete page 2 of Form 600B-04 first so that you can be sure the component efficiencies you plan to install in the building will comply with one of the packages given under Method B.

The two pieces of information that differ from that required to fill out page 1 of Form 600A-04 are described below:

COMPLIANCE PACKAGE CHOSEN -- Enter the letter representing the compliance package you will be using to determine compliance with the Code from page 2 of Form 600B-04.

PERCENTAGE OF GLASS TO FLOOR AREA -- Total glass area divided by total conditioned floor area (see instructions on page 2 below).

Form 600B-04 - Page 2

Page 2 of the form contains Table 6B-1. Table 6B-1 lists the MINIMUM REQUIREMENTS for each of the PACKAGES FOR NEW CONSTRUCTION, and a column labeled TO BE INSTALLED. To comply with the Code, all of the requirements of <u>one</u> package must be met or exceeded.

First calculate the percentage of glass area to floor area for the house. This percentage is calculated by dividing the total of all glass areas by the total conditioned floor area. Step 1 of the Residential Analysis Worksheet (see pages 27 and 36-40) may be used to tally the glass areas. Include sliding glass doors and other glass areas in doors when calculating the total glass area. The total conditioned floor area is the sum of all conditioned floor areas, including all conditioned living areas such as second floors or conditioned work areas. Do not include any unconditioned areas such as garages, storage rooms, or utility rooms. Table 5 of Step 2 of the Residential Analysis Worksheet (see page 42) can be used to calculate the total conditioning for area. Multiply the results by 100 to obtain the percent. Compliance packages are provided for houses with 15%, 20%, and 25% glass to floor areas. Select a compliance package which is equal to or does not exceed the percentage you calculated. For

example, if you calculated the percentage of glass to floor area to be 16%, you could choose from any of the 20% or 25% packages. Do not use a 15% compliance package in this case.

Circle the letter of the package selected. Write in the TO BE INSTALLED column the R-valves of the components, equipment efficiencies, and other component descriptions requested. These values must be equal to or better than those prescribed by the package you have chosen. The R-values prescribed and reported are the labeled values of the added insulation product. It does not include the R-value of other building materials such as gypsum board, masonry blocks, face bricks, etc. The R-value for ducts is the installed R-value of the duct product.

Read the DESCRIPTION OF BUILDING COMPONENTS LISTED criteria on page 2 for further instructions on what is required for each category.

Finishing the Job

Go back to page 1 and complete the component information requested. Detailed instructions for filling out page 1 of Form 600A-04 (see pages 68 to 70) pertain to page 1 of Form 600B-04 as well. Additional prescriptive requirements are listed on Table 6B-2. Carefully read all applicable requirements on Table 6B-2 and check the boxes to the right to show your intent to comply with the requirement. Details of the requirements are found in the Code under the subsection numbers listed in Table 6B-2. The owner or his agent must sign and date the form before it is submitted to the building department. See page 78 for form submission and EPL Display Card requirements that must be met by all residential buildings.

Special Instructions for Additions

If you are building an addition to an existing home, you may comply by completing Form 600B-04. The addition must meet all applicable requirements for the package chosen. To comply, choose one of the packages on Table 6B-1. The addition may comply with the Code in the same manner as new construction with the following clarifications:

- 1. Components separating the conditioned spaces of the new structure from conditioned spaces of the addition are not considered. Components separating the conditioned spaces of the new structure from unconditioned spaces of the existing structure (adjacent) or common components should be insulated to the levels specified for that component in Table 6B-1 on Form 600A-04. "Common" components are those which divide two separate conditioned tenancies in a multiple family structure.
- 2. Heating and cooling equipment criteria must be met only when equipment is installed to specifically serve the addition or is installed along with the construction of the addition.
- 3. The water heater requirements need only be met if a new unit is installed to serve the addition or is installed along with the construction of the addition.
- 4. The packages that do not allow the use of electric resistance water heating shall not be used for an addition unless a dedicated heat pump, heat recovery unit, or solar system already exists or is being installed along with the addition.

COMPLETING FORM 600C-04 Method C, the Limited Applications Prescriptive Method

Form 600C-04 may be used for additions containing 600 square feet or less, for all residential renovations, for site-installed components and features of manufactured homes, and for new systems added to existing buildings. A sample completed form is provided on pages 116-117. Requirements vary for houses built in the different climate regions of Florida. Be sure you have the proper form for the zone in which the house will be built.

Although all residential additions must comply with the Code regardless of their size or cost, only those 600 square feet or smaller may comply by using Form 600C-04. Where an addition or renovation cannot be brought into Code compliance by Method C, Methods A or B may be used. See section 13-101.4.2 of the Code for exceptions and restrictions that apply to additions and renovations to existing buildings.

Any residential building undergoing changes that varies or changes the building envelope, heating or cooling system, or water heating system such that the total cost of the change exceeds 30 percent of the tax assessed value of the building is considered a "renovation" and must comply with the Code *for the components being changed*.

Where new heating, cooling or water heating equipment is added to an existing home not meeting the definition of renovation, it is considered a "new building system" and the installation must meet Code by use of Form 600C-04 for the system(s) being changed.

Form 600C-04 - Page 1

The instructions for completing page 1 of Form 600C-04 parallel those for completing page 1 of Form 600A-04 (see pages 68 to 70) with a few exceptions as described below. However, it is advisable to complete page 2 of Form 600C-04 first so that you can be sure the component efficiencies you plan to install in the building will comply with the Code.

The three pieces of information that differ from that required to fill out page 1 of Form 600A-04 are described below:

1. PERCENTAGE OF GLASS TO FLOOR AREA -- Total glass area divided by total conditioned floor area (see instructions on page 2 below).

2. MARRIAGE WALLS OF MULTIPLE UNITS -- Answer yes or no to indicate that marriage walls between sections of double wide or multiple units of manufactured homes will be sealed with long-life caulk or gasketing and will be mechanically fastened in accordance with the manufacturer's instructions.

3. AIR DISTRIBUTION SYSTEM (on manufactured homes)

a. Backflow damper for single package systems -- Enter "Yes" or "No" to indicate that an automatic backflow damper will be installed between the air conditioning unit and factory-installed duct.

b. Ducts on marriage walls adequately sealed -- Enter "Yes" or "No" to indicate that the duct connections between the air distribution systems of separate units of multiple unit manufactured homes are installed and sealed (see sec. 13-610.1.ABC of the Code).

Form 600C-04 - Page 2

Additions. The requirements are given on Table 6C-1 and Table 6C-2. On Table 6C-1 MINIMUM INSULATION levels are given for building COMPONENTs and MINIMUM EFFICIENCY levels are given for EQUIPMENT. Also on page 2 you will find GENERAL DIRECTIONS about completing the form. Read and follow these directions carefully. Complete the applicable blanks in the INSULATION INSTALLED and EFFICIENCY INSTALLED columns on Table 6C-1.

Table 6C-2 gives the requirements for glass areas in additions. To determine what glass type and overhang will be required, first calculate the percentage of new glass area to floor area. This percentage is calculated as follows:

- 1. Add together the areas of all vertical glass in the addition. Include sliding glass doors and glass areas in doors.
- 2. Add together the area of all skylights or other non-vertical roof glass and multiply by 2.
- 3. Add the areas from Steps 1 and 2 above together.
- 4. Add together all areas of glass that were either removed from the existing house because of the addition or enclosed by the addition.
- 5. Subtract the sum of Step 4 from the sum in Step 3.
- 6. Divide the adjusted glass area (the results of Step 5) by the total conditioned area of the addition.
- 7. Multiply the answer from Step 6 by 100.

On Table 6C-2 find the next largest glass percentage under which your calculated percentage falls. For example, if your calculation of the percentage of adjusted glass area to conditioned floor area is 36%, the category is "UP TO 40%". Enter this percentage (example 40% percent), in the upper right block of the table labeled MAXIMUM % = _____. Enter the calculated value (example 36%) in the block labeled INSTALLED % = _____.

Once you have determined the percentage of glass category the addition falls under, you will find several combinations of Overhang (OH) width and Solar Heat Gain Coefficient (SHGC) from which to choose. The solar heat gain coefficient is a measure of the amount of sunlight (heat) admitted by the particular window. The smaller the SHGC, the less heat/light the window allows to pass through. If the window you plan to use has a Shading Coefficient (SC) instead of a solar heat gain coefficient, convert the SC to a SHGC by multiplying it by 0.87.

Windows or glass doors in the exterior walls of the house which are being moved from the existing house to the addition do not have to comply with the glass type, overhang or solar heat gain coefficient requirements of Table 6C-2. All new glass in the addition must meet the requirements for one of the options in the glass percentage category chosen from Table 6C-2.

Renovations. Follow the directions for completing Table 6C-1 given on page 2 of the form. Only the components or equipment being changed or replaced as part of the renovation plan need to comply with the requirements of Table 6C-1. Table 6C-2 is not used when bringing renovations into Code compliance. Glass areas being renovated must meet the following criteria. Any glass type and solar heat gain coefficient may be used for glass areas which are under at least a two foot overhang and whose lowest edge does not extend further than 8 feet from the overhang. Overhang heights and lengths are measured in the same manner as in Method A. See pages 37 and 38. Glass areas being renovated which do not meet this criteria must be either single-pane tinted, double-pane clear, or double-pane tinted.

When you have completed page 2 and all the values for each component comply with the prescribed requirements, turn to page 1 of the form.

Manufactured Homes. Only site-installed components and features of manufactured homes are covered by Form 600C-04. These components and features are generally those indicated by an asterisk on Page 1 of the form and are summarized as follows:

- + Marriage walls between multiple units shall be sealed.
- + Air conditioners and heating systems installed on site shall meet Code minimums.
- + Air distribution system components installed on site shall meet Code minimums. Backflow dampers are required on single package air conditioning systems.

New Building Systems. New heating, ventilating, cooling, water heating and pool heating systems being installed in existing buildings must comply with the criteria on Form 600C-04 for only the items being changed. Repairs to existing equipment are not covered, nor are auxiliary existing systems (such as ducts) when a new system is installed unless that system (e.g. the ducts) needs replacement as well. Equipment sizing calculations are only required when changes to the building meet the definition of "renovation".

Finishing the Job

Additional prescriptive requirements are listed on Table 6C-3. Carefully read all applicable requirements on Table 6C-3 and check the boxes to the right to show your intent to comply with the requirement. Details of the requirements are found in the Code under the subsection numbers listed in Table 6C-3. The owner or his/her agent must sign and date the form before it is submitted to the building department.

FORM SUBMISSION

When you have completed the Code compliance forms, the appropriate parties must sign and date the blocks labeled PREPARED BY and OWNER AGENT. Check with your local building department to find out exactly how many copies of the forms they require. Submit one original and at least one copy of the front page of the form to the local building department. Once the forms have been reviewed for completeness and accuracy, they should be signed by the building official or his/her representative. If changes are made to the building during construction that diminish the energy performance of the building, a new Code compliance form must be completed to demonstrate that the building still complies with the Code.

COMPLETING THE EPL DISPLAY CARD

The EPL Display Card contains information that is provided to the first owner of a home that describes the efficiencies of building construction and insulation, equipment and other conditions for which the builder claims credit when bringing the home into compliance with Chapter 13 of the *Florida Building Code* (the energy code). Most of the information entered onto this form will be the same as that entered onto the front page of Form 600A-04 (see page 68). Find the appropriate construction category for each building component and enter the insulation R-value, equipment efficiency or credits claimed from Form 600A-04 or 600B-04. The EPL Display Card must be completed and signed by the builder for both pre-sold and not pre-sold homes. It is submitted to the building official, and is returned to the builder to be provided to the homebuyer as part of the documents of sale.

Where a FLA/RES computer calculation is run on the building in lieu of Form 600A-04, the EPL Display Card is automatically printed out. When the FLA/RES program is used, an Estimated Energy Performance Score is also provided on the form. This score cannot be achieved without use of the program. Information on the bottom of the EPL Display Card shows how to get a more detailed energy analysis of the home.