



## Mandatory Measures

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Reducing our energy use is vital to the future of the State of California. Therefore the Mandatory Measures were established setting minimum requirements for energy-efficiency performance for all residential homes. So what are the Mandatory Measures? The Mandatory Measures can be found on the MF1R form or Section 150 of the Standards. These measures list the minimum efficiency requirements for all homes. Some of the Mandatory Measures apply to envelope insulation values, fireplace doors, lighting and duct systems. The Energy Commission developed Mandatory Measures to insure a minimum level of energy efficiency performance for all homes regardless of the compliance method used to demonstrate compliance.

So how do the Mandatory Measures relate to the prescriptive approach? The prescriptive approach requires each building component to meet a minimum prescribed efficiency requirement where no energy calculations are required. When using this approach majority of the Mandatory Measures are super-ceded by more stringent prescriptive requirements. For example the Mandatory Measures to install a minimum of R19 ceiling insulation is usually super-ceded by an R30 or R38 ceiling insulation requirement under package D depending on your climate zone. So when comparing the Mandatory Measures and package D the more stringent requirement of the two shall be met and verified by the plans examiner.

How do the Mandatory Measures relate to the performance approach? The performance approach requires the use of an approved computer program that calculates an energy budget for the home using package D as a standard energy budget. Trade offs between the efficiency requirements in package D are allowed when used in this approach. The Mandatory Measures are not included in the standard energy budget when using an approved computer program so it is possible for an applicant to provide a CF1R form that states the home complies but they do not meet the Mandatory Measures. For this reason it is important that the plans examiner verify compliance with the Mandatory Measures for the performance approach.

Has the MF1R form changed for the 2008 Energy Standards? Yes. The 2005 MF1R form was a checklist that required an applicant to check off the Mandatory Measures that applied to their project. Now because the Mandatory Measures applied to every residential home, we removed the check boxes from the MF1R form and the 2008 version is a summary of the Mandatory Measures that clarifies these requirements must always be

installed.

Should the MR1R form be attached to the plans? The Energy Commission recommends that the MF1R form be attached to the plans to insure that the specifications of these measures are included on the plans so that all parties involved in the building process for example, the applicant, the Plans Examiner, the builder and the inspector are all made aware of these requirements on the plans.

Are there any new mandatory measures under the 2008 Energy Standards? Yes. Section 150-O of the 2008 Standards will require residential homes to meet the ventilation and acceptable indoor air-quality requirements of Ashray standard 62.2. This will require the installation of mechanical exhaust fans in response to tighter home construction and Section 150-P of the 2008 Standards has new requirements for new pool systems and equipment to increase efficiency and conserve water.

Are there any other specifications that the plans examiner should look for in addition to the MF1R for these new Mandatory Measures? Yes. Contractors will most likely comply with Ashray standard 62.2 by installing exhaust fans that have to meet specific CFM requirements and one of those fans will have to be sized properly to provide exhaust ventilation for the whole house. With this send the plans examiner shall identify the specifications of ventilation on the plans to verify compliance with Ashray standard 62.2. For the new pool systems and equipment measures Section 150-P requires the use of a simple calculation to determine the appropriate sizing and flow rate of the pool equipment. So again the plans examiner will want to identify these calculations on the plans to verify compliance with this new Mandatory Measure under the 2008 Standards.

In conclusion, all residential homes shall meet the Mandatory Measures regardless of the compliance method used. The MF1R form is now a summary of the Mandatory Measures that should be included on the plans. To verify compliance with these Mandatory Measures additional information may be required on the plans to simplify enforcement for the building department staff.