

**DUCT SURFACE AREA REDUCTION; R-VALUE; BURIED DUCTS COMPLIANCE CREDIT**

CALIFORNIA ENERGY COMMISSION

CEC-CF2R-MCH-29-H

**SAMPLE FORM – NOT VALID FOR SUBMISSION TO BUILDING DEPARTMENTS****CERTIFICATE OF INSTALLATION****Note:** This table completed by HERS Registry.

Project Name:	Enforcement Agency:
Dwelling Address:	Permit Number:
City and Zip Code:	Permit Application Date:

*Note: Submit one Certificate of installation for each duct system that must demonstrate compliance in the dwelling.*

**A. Duct System Information**

01	Space Conditioning System Name or Identification/Tag	
02	Space Conditioning System Location or Area Served	
03	Indoor Unit Name or Description of Area Served	
04	Status - Duct Surface Area Reduction And R-Value Compliance Credit	
05	Status - Buried Ducts Compliance Credit	
06	Status - Deeply Buried Ducts Compliance Credit	

**B. Duct Surface Area Reduction and R-value Compliance Credit**

Credit is available for supply duct systems with reduced surface area in unconditioned space with varying combinations of higher performance insulation if the system complies with the following requirements:

01	The duct system design shall be detailed in the special features section of the CF1R-PRF-01-E approved by the enforcement agency.
02	A duct design layout that conforms to the duct system design details in the special features section of the CF1R-PRF-01-E shall be documented on the building design plans approved by the enforcement agency.
03	The duct system installation, including duct sizes, R-values, and lengths, and locations of supply & return registers shall conform to the duct system design layout approved by the enforcement agency.
04	The duct system installation shall be verified by a HERS rater according to the requirements in RA3.1.4.1.4.
05	The duct system installation shall not have severely twisted or compressed sections that would restrict required operating airflow.

**The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.**



# DUCT SURFACE AREA REDUCTION; R-VALUE; BURIED DUCTS COMPLIANCE CREDIT

CALIFORNIA ENERGY COMMISSION

CEC-CF2R-MCH-29-H

## SAMPLE FORM – NOT VALID FOR SUBMISSION TO BUILDING DEPARTMENTS

### C. Buried Ducts Compliance Credit

Ducts partly or completely buried in blown attic insulation in dwelling units meeting the requirements for verified quality insulation installation may take credit for increased effective duct insulation if the system complies with the following requirements:

01	The duct system design shall be detailed in the special features section of the CF1R-PRF-01-E approved by the enforcement agency.
02	A duct design layout that conforms to the duct system design details in the special features section of the CF1R-PRF-01-E shall be documented on the building design plans approved by the enforcement agency.
03	The installed duct system and attic insulation shall conform to the design details in the enforcement agency approved CF1R-PRF-01-E. These installation details include, duct nominal diameter, R-value, and length of each segment, ceiling insulation depth, type (i.e. fiberglass or cellulose), and R-value, and supply and return register locations.
04	The duct system installation shall be verified by a HERS rater according to the requirements in RA3.1.4.1.5. Verification of duct system installation shall be completed prior to burial of ducts. Verification of insulation installation shall be completed by a second HERS inspection after ducts are buried.
05	Ducts shall not have severely twisted or compressed sections that would restrict required operating airflow.
06	Ducts shall be buried by a uniform level of insulation (i.e. no mounding attic insulation to achieve burial level), lay directly or within 3.5 inches of ceiling gypsum board, and have at least 6 inches of space between the duct outer jacket and the roof sheathing.
07	The dwelling shall comply with all Quality Insulation Installation requirements as documented on the applicable CF2R and CF3R.

The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.

### D. Deeply Buried Ducts Compliance Credit

Duct segments meeting the requirements for buried ducts and covered by at least 3.5 inches of insulation can take credit for effective duct insulation levels greater than buried ducts. Deeply buried ducts have the option of using lowered portions of the ceiling or durable containment systems to achieve burial depth greater than the overall attic insulation level. Deeply buried duct systems must comply with the following requirements:

01	The duct system design shall be detailed in the special features section of the CF1R-PRF-01-E approved by the enforcement agency.
02	A duct design layout that conforms to the duct system design details in the special features section of the CF1R-PRF-01-E shall be documented on the building design plans approved by the enforcement agency.
03	The installed duct system and attic insulation shall conform to the design details in the enforcement agency approved CF1R-PRF-01-E. These installation details include, duct nominal diameter, R-value, and length of each segment, ceiling insulation depth, type (i.e. fiberglass or cellulose), and R-value, lowered chase or containment system locations, and supply and return register locations.
04	The duct system installation shall be verified by a HERS rater according to the requirements in RA3.1.4.1.6. Verification of duct system installation shall be completed prior to burial of ducts. Verification of insulation installation shall be completed by a second HERS inspection after ducts are buried.
05	Ducts shall not have severely twisted or compressed sections that would restrict required operating airflow.
06	Ducts shall be buried by a uniform level of insulation (i.e. no mounding attic insulation to achieve burial level), lay directly or within 3.5 inches of ceiling gypsum board, and have at least 6 inches of space between the duct outer jacket and the roof sheathing.
07	The dwelling shall comply with all Quality Insulation Installation requirements as documented on the applicable CF2R and CF3R.
08	Containment systems shall have walls at least 7 inches wider than the duct outer diameter, extend at least 3.5 inches above the duct jacket, be filled completely with blown insulation, and have the duct centered between the containment walls.

The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.



# DUCT SURFACE AREA REDUCTION; R-VALUE; BURIED DUCTS COMPLIANCE CREDIT

CALIFORNIA ENERGY COMMISSION

CEC-CF2R-MCH-29-H

**SAMPLE FORM – NOT VALID FOR SUBMISSION TO BUILDING DEPARTMENTS**

## E. Duct System Design Details

01	02	03	04	05	06	07	08	09
Duct Segment Identification	Nominal Diam. (in)	Duct R-value	Length (ft)	Attic Insulation R-value	Attic Insulation Depth (in)	Attic Insulation Type	Containment System or Lowered Chase	Duct Burial Level

For information and data collection only. Not valid until registered with a HERS provider

**DUCT SURFACE AREA REDUCTION; R-VALUE; BURIED DUCTS COMPLIANCE CREDIT**

CALIFORNIA ENERGY COMMISSION

CEC-CF2R-MCH-29-H

**SAMPLE FORM – NOT VALID FOR SUBMISSION TO BUILDING DEPARTMENTS****DOCUMENTATION AUTHOR'S DECLARATION STATEMENT**

1. I certify that this Certificate of Installation documentation is accurate and complete.

Documentation Author Name:	Documentation Author Signature:
Documentation Author Company Name:	Date Signed:
Address:	CEA/HERS Certification Identification (If applicable):
City/State/Zip:	Phone:

**RESPONSIBLE PERSON'S DECLARATION STATEMENT**

2. I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this certificate of installation is true and correct.
  2. I am either: a) a responsible person eligible under division 3 of the business and professions code in the applicable classification to accept responsibility for the system design, construction, or installation of features, materials, components, or manufactured devices for the scope of work identified on this certificate of installation, and attest to the declarations in this statement, or b) I am an authorized representative of the responsible person and attest to the declarations in this statement on the responsible person's behalf.
  3. The constructed or installed features, materials, components or manufactured devices (the installation) identified on this certificate of installation conforms to all applicable codes and regulations and the installation conforms to the requirements given on the certificate of compliance, plans, and specifications approved by the enforcement agency.
  4. I understand that a HERS rater will check the installation to verify compliance and if such checking determines the installation fails to comply, I am required to offer any necessary corrective action at no charge to the building owner.
  5. I understand that a registered copy of this certificate of installation shall be posted or made available with the building permit(s) issued for the building and made available to the enforcement agency for all applicable inspections, and I will take the necessary steps to ensure this requirement is accomplished.
  6. I understand that a registered copy of this certificate of installation is required to be included with the documentation the builder provides to the building owner at occupancy, and I will take the necessary steps to ensure this requirement is accomplished.

Responsible Builder/Installer Name:	Responsible Builder/Installer Signature:	
Company Name: (Installing Subcontractor or General Contractor or Builder/Owner)	Position With Company (Title):	
Address:	CSLB License:	
City/State/Zip:	Phone	Date Signed:
Third Party Quality Control Program (TPQCP) Status:	Name of TPQCP (if applicable):	

For assistance or questions regarding the Energy Standards, contact the Energy Hotline at: 1-800-772-3300

CERTIFICATE OF INSTALLATION - DATA FIELD DEFINITIONS AND CALCULATIONS	CF2R-MCH-29-H
Supply Duct Compliance Credits - Location; Surface Area; R-value	(Page 1 of 2)

## CF2R-MCH-29-H User Instructions

### Section A. Duct Information

1. *System Identification or Name:* This field is filled out automatically. It is referenced from the CF2R-MCH-01, which must be completed prior to this document.
2. *System Location or Area Served:* This field is filled out automatically. It is referenced from the CF2R-MCH-01, which must be completed prior to this document.
3. *Indoor Unit Name:* This field is filled out automatically. It is referenced from the CF2R-MCH-01, which must be completed prior to this document.
4. *Status – Duct Surface Area Reduction and R-Value Compliance Credit:* This field is auto-filled from the CF1R-PRF-01-E indicating if the credit is being used. If not, then N/A will be displayed.
5. *Status – Buried Ducts Compliance Credit:* This field is auto-filled from the CF1R-PRF-01-E indicating if the credit is being used. If not, then “N/A” will be displayed.
6. *Status – Deeply Buried Ducts Compliance Credit:* This field is auto-filled from the CF1R-PRF-01-E indicating if the credit is being used. If not, then “N/A” will be displayed.

### Section B. Supply Duct Surface Area Reduction and R-value Compliance Credit

1. This field must be a true statement (or not applicable) for the system to comply.
2. This field must be a true statement (or not applicable) for the system to comply.
3. This field must be a true statement (or not applicable) for the system to comply.
4. This field must be a true statement (or not applicable) for the system to comply.
5. This field must be a true statement (or not applicable) for the system to comply.

### Section C. Buried Ducts Compliance Credit

1. This field must be a true statement (or not applicable) for the system to comply.
2. This field must be a true statement (or not applicable) for the system to comply.
3. This field must be a true statement (or not applicable) for the system to comply.
4. This field must be a true statement (or not applicable) for the system to comply.
5. This field must be a true statement (or not applicable) for the system to comply.
6. This field must be a true statement (or not applicable) for the system to comply.
7. This field must be a true statement (or not applicable) for the system to comply.

### Section D. Deeply Buried Ducts Compliance Credit

1. This field must be a true statement (or not applicable) for the system to comply.
2. This field must be a true statement (or not applicable) for the system to comply.
3. This field must be a true statement (or not applicable) for the system to comply.
4. This field must be a true statement (or not applicable) for the system to comply.
5. This field must be a true statement (or not applicable) for the system to comply.
6. This field must be a true statement (or not applicable) for the system to comply.
7. This field must be a true statement (or not applicable) for the system to comply.
8. This field must be a true statement (or not applicable) for the system to comply.

CERTIFICATE OF INSTALLATION - DATA FIELD DEFINITIONS AND CALCULATIONS	CF2R-MCH-29-H
Supply Duct Compliance Credits - Location; Surface Area; R-value	(Page 2 of 2)

#### Documentation Declaration Statements

1. The person who prepared the CF2R will sign and complete the fields for their name, company (if applicable), address, phone number, certification information (if applicable), date and signature.
2. The person who is assuming responsibility for the project being built to comply with Title 24, Part 6, will complete the fields for their name, company (if applicable), address, phone number, license number (if applicable), date and signature.

For information and data collection only. Not valid until registered with a HERS provider