

# 2022 TITLE-24 CHANGES

ARC Engineering Envelope-Mechanical & Plumbing Memo

As the California Energy Commission (CEC) continues to encourage building decarbonization, it has published its periodically updated Energy Code for 2022. All projects that are submitted for plancheck on or after January 1, 2023 must comply with the 2022 Energy Code.

## SECTION 140.4(a) - Prescriptive Mechanical/Plumbing Equipment

The strategic emphasis is to use heat pumps for space heating and domestic hot water systems to trend the future decarbonization goals.

The new prescriptive equipment standard for HVAC equipment is heat pumps and for domestic hot water equipment is hot water heat pumps.

## SECTION 120.2(e)3 - Mandatory Mechanical

Equipment efficiency increases in various heating and cooling equipment, fans, cooling towers, furnaces, boilers, and DOAS (Dedicated Outdoor Air Systems), computer room units, heat pumps and heat recovery chillers

## SECTION 110.12(a) & (b) - Mandatory Mechanical

The mandatory occupant sensor ventilation controls have been expanded to more room types. Examples: Office space and Lounges <1,000 sf, Coffee Stations, Corridors, tele/data rooms.

## SECTION 120.2(e)3 - Prescriptive Mechanical

Air or water economizers are required on smaller air handlers greater than 33 Mbtuh/2.8 Tons cooling capacity (vs 54 Mbtuh previously). Exception: Greater than 54 Mbtuh for certain systems served by DOAS & exhaust heat recovery

## SECTION 140.3 - Envelope Fenestration & Roof Insulation

Nearly all (>200sq.ft.) site-built fenestrations are required to be NFRC-Rated (National Fenestration Rating Council). See Table 140.3-B below.

Prescriptive fenestration requirements (U-factor and RSHGC) were reduced and now vary by climate zone, but VT (visible transmittance) remains the same.

Roof insulation: New prescriptive requirement for continuous above roof deck insulation for roof alterations. For roof replacements and recovers, new R-values required.



## T24 CHANGES: MAIN HIGHLIGHTS

### 140.4(a) - Prescriptive Mechanical/Plumbing Equipment

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### 110.12(a)&(b) - Mandatory Mechanical

- The mandatory occupant sensor ventilation controls have been expanded to more room types.

### 120.2(e)3 - Prescriptive Mechanical

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### 140.3 - Envelope

- Site-built fenestrations are required to be NFRC-Rated (National Fenestration Rating Council). Prescriptive fenestration requirements (U-factor and RSHGC) were reduced and now vary by climate zone, but VT(visible transmittance) remains the same.
- Roof insulation: New prescriptive requirement for continuous above roof deck insulation for roof alterations.
- For roof replacements and recovers, new R-values required.



Nonresidential	Measurement	Climate Zone															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Fixed Window	Maximum U-factor	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.34	0.36	0.34	0.34	0.34	0.34	0.34
	Maximum RSHGC	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.22	0.25	0.22	0.22	0.22	0.22	0.25
	Minimum VT	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
Curtainwall or Storefront	Maximum U-factor	0.38	0.41	0.41	0.41	0.41	0.41	0.38	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41
	Maximum RSHGC	0.25	0.26	0.26	0.26	0.26	0.26	0.25	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
	Minimum VT	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46

RSHGC = relative solar heat gain coefficient; VT = visible transmittance.

Table 2 is an excerpt only and does not represent Table 140.3-B in its entirety.

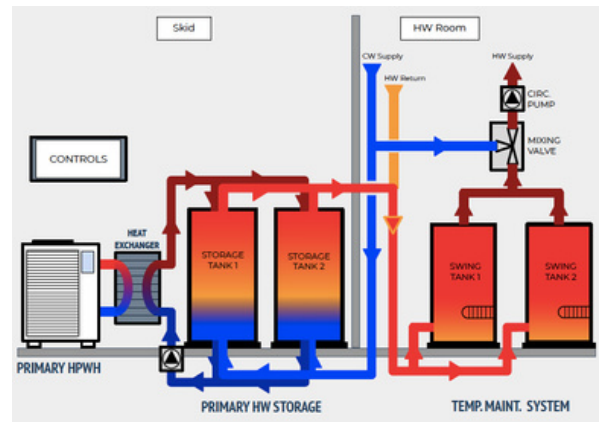
## SECTION 140.4(a) - Prescriptive Mechanical/Plumbing Equipment



**Heat Pump Water Heating Systems**

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## SECTION 140.4(a) - Mandatory Mechanical

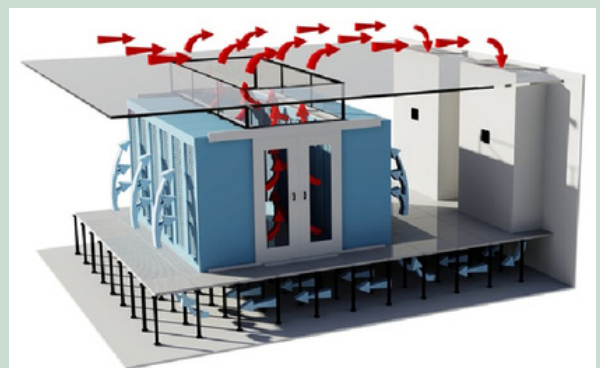
Duct Leakage (HERS) Testing is now mandatory requirement for certain constant volume, single zone, air systems in small (< 5,000 SF) projects



**Duct Leakage Test Systems**

## SECTION 140.9(a) - Prescriptive Mechanical - Covered Processes

Mandatory CRAC Unit requirements: air economizers, rack air containment and UPSs must meet or exceed minimum average efficiencies for AC current output, in order to meet or exceed the calculation and testing requirements per EnergyStar Program Requirements.



**Rack Air Containment Systems**