1. Prevention of Heat Loss through the External Walls, Windows, etc. of Buildings

1-1. Construction clients shall take proper measures to prevent heat loss through the external walls, windows, etc. of buildings, with due consideration given to the following particulars.

(1) They shall make the site and floor plans for buildings with due consideration given to the orientation of the external walls, layouts of rooms, and other matters.

(2) They shall use thermal insulating materials for external walls, roofs, floors, windows, and openings.

(3) They shall reduce the solar radiation load by adopting a system capable of properly controlling solar radiation through windows, planting trees, or taking other measures.

1-2. The judgment whether construction clients have taken proper measures for the matters listed in Paragraph 1-1 related to the external walls, windows, etc. of buildings (except for those of the building type described in Column (8) of Attached Table 1 and common in Paragraphs from 1-2 to 1-5 below) shall be made based on Paragraph 1-3. Note that for external walls, windows, etc. of buildings having a total floor area of 5,000 square meters or less, the judgment may be made based on Paragraphs 1-3 and 1-4. For external walls, windows, etc. of buildings having a total floor area of less than 2,000 square meters, the judgment may be made based on Paragraph 1-3 or 1-4, and Paragraph 1-5.

1-3. The value, which is calculated by dividing the annual thermal load of the indoor perimeter zones of a building by the total of the floor areas (unit: m^2) of the indoor perimeter zones, shall be equal to or smaller than the value calculated by multiplying the value specified for each cell in Row (b) of Attached Table 1 by the scale correction coefficient. Indoor perimeter zone means an indoor zone of 5 m or less in horizontal distance from the center line of the external wall of each floor excluding the basement, the indoor floor of the top story just beneath the roof, and the indoor floor just above the floors exposed to the outside air: this definition is common in below.

In this case, the annual thermal load of the indoor perimeter zones and the scale correction coefficient shall be as specified in (1) and (2) below:

(1) The annual thermal load of the indoor perimeter zones shall be the total of the heating and cooling loads caused by heat (unit: megajoules) in the zones in one year (when operation time of each room is specified according to its usage type, the specified time shall be applied for the calculation of thermal load; this definition is common in below), which are described in a to d below:

a. Heat penetrating through the external walls, windows, etc. due to the temperature difference between the outside air and the indoor perimeter zones (This temperature difference shall be the difference between the outside air and 22 degrees centigrade for the heating load, and the difference between the outside air and 26 degrees centigrade for the cooling load, except when calculating the heating load of buildings used for the building type listed in Column (3) of Attached Table 1 and the heating load of classrooms of buildings used for the building type listed in Column (5) of Attached Table 1, in which case it shall be the difference between the outside air and 20 degrees centigrade.)

b. Solar radiation heat through the external walls, windows, etc.

c. Heat generated in the indoor perimeter zones

d. Heat of intake outside air based on the amount calculated from any of the following equations: Equation 1) for guest rooms in buildings of the building type listed in Column (1) of Attached Table 1; Equation 2) for sickrooms in buildings of the building type listed in Column (2) of Attached Table 1; Equation 3) for spaces other than sickrooms in buildings of the building type listed in Column (2) of Attached Table 1; Equation 4) for classrooms in buildings of the building type listed in Column (5) of Attached Table 1, for dining rooms in buildings of the building type listed in Column (6) of Attached Table 1, and for meeting rooms in buildings of the building type listed in Column (7) of Attached Table 1; and Equation 5) for spaces other than guest rooms in buildings of the building type listed in Column (1) of Attached Table 1, for buildings of the building type listed in Column (3) of Attached Table 1, for buildings of the building type listed in Column (4) of Attached Table 1, for spaces other than classrooms in buildings of the building type listed in Column (5) of Attached Table 1, for rooms other than dining spaces in buildings of the building type listed in Column (6) of Attached Table 1, or for spaces other than meeting rooms in buildings of the building type listed in Column (7) of Attached Table 1.

1) $V = 3.9 A_p$

2) $V = 4.0 A'_p$

3) $V = 6.0 A_p$

4) $V = 10 A_p$

5) $V = 20 A_p/N$

where V, A_p, and N are the values shown below:

V: Intake outside air volume (unit: m^3/hour)

A_p: Floor area of the indoor perimeter zones (unit: m^2)

N: Occupied area per person according to the actual condition (unit: m^2)

(2) The scale correction coefficient shall be the value shown in Attached Table 2 according to the value calculated by dividing the total floor area of the building excluding the

basement (unit: m^2) by the number of floors excluding the basement (hereinafter called the "average floor area"), and according to the number of floors excluding the basement.

1-4. For external walls, windows, etc. of buildings having a total floor area of 5,000 square meters or less that are important from the viewpoint of energy use, the score, which is calculated by adding the score selected from Table 1-1 according to the building type and regional classification to the total of the evaluation scores shown in (1) to (4) below, shall be 100 or more.

(1) The evaluation score of the site and floor plans of buildings shall be the total of the scores selected based on the measures listed for each item in the following table.

Item	Implemented measures	Score
Main orientation of a building	North or south (The aspect ratio shall be less than 3/4.)	6
	East or west (The aspect ratio shall be less than 3/4.)	0
	Other than those above	3
Shape of a building	The aspect ratio shall be 3/4 or more (Double-core buildings only).	8
	The aspect ratio shall be 3/4 or more (Except double-core buildings).	5
	The aspect ratio shall be 3/8 or more and less than 3/4	4
	The aspect ratio shall be less than 3/8 (Double-core buildings only).	3
	The aspect ratio shall be less than 3/8 (Except double-core buildings).	0
Core layout	Double core	12
	A core is laid out on only one side of a building.	6
	Other than those above	0
Average floor height of a building	Less than 3.5 meters	4
	3.5 meters or more and less than 4.5 meters	2
	4.5 meters or more	0

1. "Main orientation" means the orientation of the external wall that has the largest total window area, among the orientations of the external wall.
2. "Double core" means an arrangement of two or more cores on different sides of a building.
3. "Average floor height" means the average of the heights from the floor face of each floor to that of the floor immediately above.

(2) The evaluation score of the thermal insulation performance of the external walls and roofs in warm and cold districts shall be the total of the scores selected based on the measures listed for each item in the district in the following table. A warm district means a district excluding a cold district (which means Hokkaido, Aomori, Iwate, and Akita Prefectures; the same shall apply hereinafter) and a tropical district (which means Okinawa Prefecture, the Tokara Islands and Amami Islands in Kagoshima Prefecture, and Ogasawara-Shicho in Tokyo Metropolitan Prefecture; the same shall apply hereinafter). This definition shall apply hereinafter. The score in a tropical district shall be 0. When 2 or more measures are taken for one item in the table, the judgment shall be made based on an area-weighted average of the thicknesses of the thermal insulators.

Area	Item	Implemented measures	Score
Warm district	External wall	A spray rigid polyurethane foam insulator with a thickness of 20 mm or more or an insulator having equivalent thermal insulation performance is used.	30
		A spray rigid polyurethane foam insulator with a thickness of 15 mm or more and less than 20 mm or an insulator having equivalent thermal insulation performance is used.	15
		Other than those above	0
	Roof	A polystyrene foam sheet foam insulator with a thickness of 50 mm or more or an insulator having equivalent thermal insulation performance is used or greening facilities are provided to 40% or more of the roof area.	20
		A polystyrene foam sheet foam insulator with a thickness of 25 mm or more and less than 50 mm or an insulator having equivalent thermal insulation performance is used.	10
		Other than those above	0
Cold district	External wall	A spray rigid polyurethane foam insulator with a thickness of 40 mm or more or an insulator having equivalent thermal insulation performance is used.	20
		A spray rigid polyurethane foam insulator with a thickness of 20 mm or more and less than 40 mm or an insulator having equivalent thermal insulation performance is used.	10
		Other than those above	0
	Roof	A polystyrene foam sheet foam insulator with a thickness of 100 mm or more or an insulator having equivalent thermal insulation performance is used or greening facilities are provided to 40% or more of the roof area.	10
		A polystyrene foam sheet foam insulator with a thickness of 50 mm or more and less than 100 mm or an insulator having equivalent thermal insulation performance is used.	5
		Other than those above	0

1. "Spray rigid polyurethane foam insulator" means the definition by the Japanese Industrial Standards (hereinafter referred to as "JIS") A9526 (spray-applied rigid polyurethane foam for thermal insulation).
2. "Polystyrene foam sheet" means an extruded polystyrene foam insulation board defined by JIS A9511 (preformed cellular plastics thermal insulation materials).

(3) The evaluation score of the thermal insulation performance of windows in warm or cold district shall be the score selected based on the measures listed in the district in the table below. The score in a tropical district shall be 0.

Area	Implemented measures	Score
Warm district	The overall thermal transmittance of windows is less than 0.75.	30
	The overall thermal transmittance of windows is 0.75 or more and less than 1.00.	25
	The overall thermal transmittance of windows is 1.00 or more and less than 1.25.	20
	The overall thermal transmittance of windows is 1.25 or more and less than 1.50.	15

	The overall thermal transmittance of windows is 1.50 or more and less than 2.00.	10
	The overall thermal transmittance of windows is 2.00 or more and less than 2.50.	5
	The overall thermal transmittance of windows is 2.50 or more.	0
Cold district	The overall thermal transmittance of windows is less than 0.25.	90
	The overall thermal transmittance of windows is 0.25 or more and less than 0.50.	75
	The overall thermal transmittance of windows is 0.50 or more and less than 0.75.	60
	The overall thermal transmittance of windows is 0.75 or more and less than 1.00.	45
	The overall thermal transmittance of windows is 1.00 or more and less than 1.25.	30
	The overall thermal transmittance of windows is 1.25 or more and less than 1.50.	15
	The overall thermal transmittance of windows is 1.50 or more.	0

The overall thermal transmittance of windows U_t shall be the value calculated from the following equation.

$$U_t = \Sigma U_i \times a_{wi}/A$$

where U_i, a_{wi}, and A are the values shown below:

U_i: Thermal transmittance (unit: watt per square meter per Kelvin)

a_{wi}: Area of the windows in an air-conditioned room (unit: square meter)

A: The total area of the external walls in an air-conditioned room (unit: square meter)

(4) The evaluation score of the solar heat shading performance of windows shall be the score selected based on the measures listed in the district of the building in the table below.

Area	Implemented measures	Score
Warm district	The overall solar heat penetration of windows is less than 0.05.	90
	The overall solar heat penetration through windows is 0.05 or more and less than 0.10.	75
	The overall solar heat penetration through windows is 0.10 or more and less than 0.15.	60
	The overall solar heat penetration through windows is 0.15 or more and less than 0.20.	45
	The overall solar heat penetration through windows is 0.20 or more and less than 0.25.	30
	The overall solar heat penetration through windows is 0.25 or more and less than 0.30.	15
	The overall solar heat penetration through windows is 0.30 or more.	0
Cold district	The overall solar heat penetration through windows is less than 0.05.	50
	The overall solar heat penetration through windows is 0.05 or more and less than 0.30.	25
	The overall solar heat penetration through windows is 0.30 or more.	0
Tropical district	The overall solar heat penetration through windows is less than 0.025.	170
	The overall solar heat penetration through windows is 0.025 or more and less than 0.05.	140
	The overall solar heat penetration through windows is 0.05 or more and less than 0.10.	110
	The overall solar heat penetration through windows is 0.10 or more and less than 0.15.	80

The overall solar t heat penetration through windows is 0.15 or more and less than 0.20.	50
The overall solar heat penetration through windows is 0.20 or more and less than 0.25.	25
The overall solar heat penetration through windows is 0.25 or more.	0

The overall solar heat penetration through windows η_t shall be the value calculated from the following equation:

$$\eta_t = \Sigma\eta_i \times f_i \times a_{wi}/A$$

where η_i, f_i, a_{wi}, and A are the values shown below:

η_i: Solar heat penetration rate (the rate of the amount of solar radiation heat penetrated into a room through windows against the amount of solar radiation heat received on the windows)

f_i: Sunshade effect coefficient defined in the table below

	$p_i \leq 0$	$0 < p_i \leq 3$	$3 < p_i \leq 10$	$10 < p_i$
Overhanging eaves	1.00	0.60	0.90	1.00
Side-fin eaves		0.80		
Overhanging and side-fin eaves	Value calculated by multiplying the sunshade effect coefficient of overhanging eaves by that of side-fin eaves			

In the case of overhanging eaves, p_i shall be the value calculated by dividing the height of the window by the eave protrusion length (If the vertical eaves position is apart from the upper end of the window, the length shall be calculated by subtracting the distance between the eaves position and the upper end of the window from the eave protrusion length). In the case of side-fin eaves, P_i shall be the value calculated by dividing the width of the window by the eave protrusion length (If the horizontal eaves position is apart from the side end of the window, the length shall be calculated by subtracting the distance between the eaves position and the side end of the window from the eave protrusion length).

a_{wi}: Area of the windows in an air-conditioned room (unit: square meter)

A: The total area of the external walls in an air-conditioned room (unit: square meter)

1-5. For external walls, windows, etc. of buildings having a total floor area of less than 2,000 square meters that are important from the viewpoint of energy use, the score, which is calculated by adding the score selected from Table 1-2 according to the building type and regional classification to the total of the evaluation scores shown in (1) and (2) below, shall be 100 or more.

(1) The evaluation score of the thermal insulation performance of the external walls in warm or cold district shall be the score selected based on the measures listed for regional classification in the following table, and the evaluation score in the tropical district shall be 0.

Area	Implemented measures	Score
Warm District	A spray rigid polyurethane foam insulator for outer walls with a thickness of 20 mm or more, or an insulator having equivalent thermal insulation performance is used.	65
	A spray rigid polyurethane foam insulator for outer walls with a thickness ranging from 15 mm or more to less than 20 mm, or an insulator having equivalent thermal insulation performance is used.	55
	Other than those above.	0
Cold District	A spray rigid polyurethane foam insulator for outer walls with a thickness of 40 mm or more, or an insulator having equivalent thermal insulation performance is used.	50

	A spray rigid polyurethane foam insulator for outer walls with a thickness ranging from 20 mm or more to less than 40 mm, or an insulator having equivalent thermal insulation performance is used.	35
	Other than those above	0
"A spray rigid polyurethane foam insulator" means the one defined by JIS A9526 (spray-applied rigid polyurethane foam for thermal insulation).		

(2) The evaluation scores of both the thermal insulation performance and solar heat shading performance of windows shall be the total scores selected based on the regional classification and measures listed for each item in the table below.

Area	Item	Implemented measures	Score
Warm District	Window Area	The window area ratio is less than 20%.	40
		The window area ratio is from 20% or more to less than 40%.	25
		The window area ratio is 40% or more.	0
	Glass Type	Low emissivity double-glazed glass is used.	35
		Double-glazed glass (excluding low emissivity double-glazed glass) is used.	30
		Other than those above.	0
Cold District	Window Area	The window area ratio is less than 20%.	25
		The window area ratio is from 20% or more to less than 40%.	20
		The window area ratio is 40% or more.	0
	Glass Type	Low emissivity double-glazed glass is used.	15
		Other than those above.	0
Tropical District	Window Area	The window area ratio is less than 20%.	50
		The window area ratio is from 20% or more to less than 40%.	35
		The window area ratio is 40% or more.	0
	Glass Type	High performance heat-reflective glass is used.	20
		Heat-reflective glass is used.	10
		Other than those above.	0
	Horizontal Eave	The protrusion length is 1.0m or more.	20
		The protrusion length is from 0.5m or more to less than 1.0m	15
		The protrusion length is less than 0.5m.	0
1. The "window area ratio" means the percentage of the window area to the outer wall area. 2. "Low emissivity double-glazed glass" means doubl-glazed glass with low emissibity that uses at least one panel of glass of which normal emittance is 0.20 or less, or that uses at least two panels of glass of which normal emittance is 0.35 or less, as defined by JIS R3106 (testing method on transmittance, reflectance and emittance of flat glasses and evaluation of solar heat gain coefficient).			

3. “Double-glazed glass” means the one defined by JIS R3209 (sealed insulating glass).

4. “High performance soaler reflective glass” means the heat reflective glass defined by JIS R3221 (solar reflective glass) and classified as Class 2 or Class 3 by its solar heat shading property.

5. “Heat-reflective glass” means heat-reflective glass defined by JIS R3221 (solar reflective glass) and classified as Class 1 by its solar heat shading property.

1-6. Owners of specified buildings (building managers, if owners and managers are different; this definition is common in below) shall take proper measures to prevent heat loss through the external walls, windows, etc. of buildings, with due consideration given to the following practices.

(1) They shall maintain specified buildings so that heat loss does not increase, paying attention to the layout of rooms.

(2) They shall maintain the thermal insulating property of external walls, roofs, floors, windows, and openings by cleaning and repairing them.

(3) They shall maintain systems to reduce thermal load due to solar radiation, by checking the control state of solar radiation through windows and maintaining greening facilities.

Table 1-1

	Ordinary district	Cold district	Tropical district
Building Type in Column (1) of Attached Table 1	-45	-70	70
Building Type in Column (2) of Attached Table 1	-30	-15	-65
Building Type in Column (3) of Attached Table 1	-30	-10	-45
Building Type in Column (4) of Attached Table 1	5	10	-10
Building Type in Column (5) of Attached Table 1	35	10	30
Building Type in Column (6) of Attached Table 1	-15	-45	5
Building Type in Column (7) of Attached Table 1	-45	-90	70

Table 1-2

	Ordinary district	Cold district	Tropical district
Building Type in Column (1) of Attached Table 1	40	35	85
Building Type in Column (2) of Attached Table 1	25	45	50
Building Type in Column (3) of Attached Table 1	30	35	45
Building Type in Column (4) of Attached Table 1	35	55	50
Building Type in Column (5) of Attached Table 1	35	55	50
Building Type in Column (6) of Attached Table 1	40	40	65
Building Type in Column (7) of Attached Table 1	40	40	65

2. Efficient Use of Energy of Air Conditioning Equipment

2-1. Construction clients shall take proper measures to achieve efficient use of energy by air conditioning equipment, with due consideration given to the following practices.

(1) They shall take into consideration the air conditioning load characteristics of rooms and other factors in designing air conditioning systems.

(2) They shall make heat retention plans to minimize energy loss in air ducts, piping, and others.

(3) They shall adopt a proper control system for air conditioning equipment.

(4) They shall adopt a heat source system with high energy efficiency.

2-2. The judgment whether construction clients have taken proper measures for the matters listed in Paragraph 2-1 related to air conditioning equipment installed in buildings (except for those of the building type described in Column (8) of Attached Table 1 and common in Sections from 2-2 to 2-5) shall be made based on Paragraph 2-3. Note that the judgment for air conditioning equipment (which is limited to both package air conditioners (limited to the air-cooling type) defined in JIS B8616 (package air conditioners) and gas engine-driven heat pump air conditioners defined in JIS B8627 (gas engine-driven heat pump air conditioners) and common in Paragraphs 2-2, 2-4 and 2-5) installed in buildings having a total floor area of 5,000 square meters or less may be made based on Paragraph 2-4, as well as Paragraph 2-3. The judgment for air conditioning equipment installed in buildings having a total floor area of less than 2,000 square meters may be made based on Paragraphs 2-3, 2-4 and 2-5.

2-3. The value, which is calculated by dividing the annual primary energy consumption by the air conditioning equipment to be installed in buildings to treat the air conditioning load in terms of heat quantity (Joule) by the assumed air conditioning load of the building in the same period, shall be equal to or smaller than the value specified in each cell of Row (c) of Attached Table 1. In this case, when converting the quantity of consumed energy shown in the left-hand column of Attached Table 3 into a heat quantity, the corresponding value in the right-hand column shall be used for the calculation. (If a smaller value than the value given in the right-hand column of Attached Table 3 can be obtained by installing equipment or appliances that ensure the efficient use of energy (hereinafter called “equipment, etc. for efficient use of energy”), the smaller value shall be used.) For other energy types, the conversion shall depend on their actual state, such as their composition. The air conditioning load and the assumed air conditioning load shall be as specified in (1) and (2) below:

(1) The air conditioning load shall be the load generated by any of the types of heat listed below:

a. Heat penetrating through the external walls, windows, etc. due to the temperature difference between the outside air and the inside (limited to air-conditioned space; this is common in Section 2)

b. Solar radiation heat through external walls, windows, etc.

c. Heat generated inside

d. Heat of intake outside air

e. Heat generated due to the actual state of the building

(2) The assumed air conditioning load shall be the load generated by any of the heat types listed in a, b, c, and e in (1) above and by the heat of the intake outside air based on any of the following equations: (Equation 1) for guest rooms in buildings of the building type listed in Column (1) of Attached Table 1; (Equation 2) for sickrooms in buildings of the building type listed in Column (2) of Attached Table 1; (Equation 3) for spaces other than sickrooms in buildings of the building type listed in Column (2) of Attached Table 1; (Equation 4) for classrooms in buildings of the building type listed in Column (5) of Attached Table 1, for dining spaces in buildings of the building type listed in Column (6) of Attached Table 1, and for meeting rooms in buildings of the building type listed in Column (7) of Attached Table 1; and (Equation 5) for spaces other than guest rooms in buildings of the building type listed in Column (1) of Attached Table 1, for buildings of the building type listed in Column (3) of Attached Table 1, for buildings of the building type listed in Column (4) of Attached Table 1, for spaces other than classrooms in buildings of the building type listed in Column (5) of Attached Table 1, for spaces other than dining rooms in buildings of the building type listed in Column (6) of Attached Table 1, and for spaces other than meeting rooms in buildings of the building type listed in Column (7) of Attached Table 1 (or a proper quantity for the actual situation with regard to guest rooms without a bathroom in buildings of the building type listed in Column (1) of Attached Table 1). Note that the reduction in load resulting from exhaust heat recovery shall not be taken into consideration.

1) $V = 3.9\ A_f$

2) $V = 4.0\ A_f$

3) $V = 6.0\ A_f$

4) $V = 10\ A_f$

5) $V = 20\ A_f/N$

where V, A_f, and N are the values shown below:

V: Intake outside air volume (unit: m^3/hour)

A_f: Inside floor area (unit: square meter)

N: Occupied area per person according to the actual situation (unit: m^2)

2-4. For the air conditioning equipment installed in buildings having a total floor area of 5,000 square meters or less that is important from the viewpoint of energy use, the score, which is calculated by adding the score of k_0 selected from Table 2-1 based on the building type and regional classification to the total of the evaluation scores shown in (1) to (3) below, shall be 100 or more.

(1) The evaluation score for the reduction in outside air load shall be the total of scores selected based on the measures listed in the following table:

Item	Implemented measures	Score
Intake outside air in steady state	For 90% or more of the total volume of intake outside air for a building, a total heat exchanger with a heat exchange efficiency of 70% or more and bypass control system are equipped.	$2K_1$
	For 50% or more of the total volume of intake outside air for a building, a total heat exchanger with a heat exchange efficiency of 50% or more is equipped.	K_1
	Other than those above	0
Intake outside air in preheating stage	A control system of stopping intake of outside air to reduce the intake outdoor air volume in preheating stage to less than 50% of the intake volume of outdoor air in steady state is used.	K_2
	Other than those above	0

1. “Heat exchange rate” means an average of the total heat exchange rate for cooling and heating.
2. “Bypass control” means a control method where heat exchange is not performed when the outside air is taken in, if the outside air enthalpy in cooling is smaller than the room air enthalpy.
3. In this table, K_1 and K_2 are the values selected from Table 2-1, according to the building type and the regional classification.

(2) The evaluation score for the installation location of an outdoor unit and the length of the pipe from the outdoor unit to the indoor unit (hereinafter referred to as the “length of the pipe” in Paragraphs 2-4) shall be the scores selected based on the measures listed in the following table:

Implemented measures		Score
Type of air conditioning equipment	Installation site of an outdoor unit and the length of the pipe	
Package air conditioner or gas heat pump air conditioners (limited to multi- type air conditioners)	When the installation location of the outdoor unit is higher than that of the indoor unit, the pipe length is more than 30 meters.	K_3
	When the installation location of the outdoor unit is lower than that of the indoor unit, the pipe length is more than 35 meters.	
Package air conditioner or gas heat pump air conditioners (Excluding multi- type air conditioners)	When the installation location of the outdoor unit is higher than that of the indoor unit, the value obtained by adding the pipe length to the height difference between the outdoor and indoor units is more than 35 meters.	
	When the installation location of the outdoor unit is lower than that of the indoor unit, the value obtained by adding the pipe length to the value obtained by multiplying the height difference between the outdoor and indoor units by 2 is more than 30 meters.	

Other than those above	0

1. "Multi-type air conditioners" mean air conditioning equipment having one outdoor unit and two or more indoor units.
2. In this table, K_3 is the value selected from Table 2-1, according to the building type and regional classification.

(3) The evaluation score for the efficiency of heat source equipment shall be the score selected based on the measures listed in the following table:

Implemented measures	Score
For 70% or more of the cooling capacity of all air conditioning equipment, heat source equipment having the average COP in cooling and heating modes of 1.25 or more is used.	60
For 70% or more of the cooling capacity of all air conditioning equipment, heat source equipment having the average COP in cooling and heating modes of 1.15 or more is used.	40
For 70% or more of the cooling capacity of all air conditioning equipment, heat source equipment having the average COP in cooling and heating modes of 1.00 or more is used.	20
Other than those above	0

The average COP in cooling and heating modes shall be the value calculated from the following equation.

When electric power is used as a driving heat source	When gas is used as a driving heat source
$(q_c \times C/Cw + q_H \times H/Hw) \times 3{,}600/\alpha$	$q_c \times C/ (C_f + \alpha \times Cw/3{,}600) + q_H \times H/ (H_f + \alpha \times Hw/3{,}600)$

where q_c, C, Cw, q_H, H, Hw, α, C_f, and H_f represent the values shown below:

- q_c: Value shown in Table 2-1 according to the applications of the building and the regional classification
- C: Cooling capacity (unit: kilowatt)
- Cw: Electric power consumption for cooling (unit: kilowatt)
- q_H: Value shown in Table 2-1 according to the applications of the building and the regional classification
- H: Heating capacity (unit: kilowatt)
- Hw: Electric power consumption for heating (unit: kilowatt)
- α: Value shown in Column "Electricity" of Attached Table 3 according to the operation status of equipment that is important from the viewpoint of energy use
- C_f: Fuel consumption for cooling (unit: kilowatt)
- H_f: Fuel consumption for heating (unit: kilowatt)

2-5. For the air conditioning equipment installed in buildings having a total floor area of less than 2,000 square meters that is important from the viewpoint of energy use, the score, which is calculated by adding the score of J_0 selected from Table 2-2 based on the building type and regional classification to the total of the evaluation scores shown in (1) and (2) below, shall be 100 or more.

(1) The evaluation score for the reduction in outside air load shall be the total of scores selected based on the measures listed in the following table.

Implemented measures	Score
Total heat exchangers are used for 50 % or more of the total air conditioned area.	J_1
Outdoor air cooling system by bypass control with total heat exchangers is used for 50 % or more of the total air conditioned area.	J_1+J_2
Other than those above.	0

1. The "bypass control" means a control method that does not perform heat exchange when the outside air is taken in, if the outside air enthalpy in cooling is smaller than the room air enthalpy.

2. In this table, J_1 and J_2 are the scores selected from Table 2-2 according to the building type and the regional classification.

(2) The evaluation scores for the efficiency of heat source equipment shall be the scores selected based on the measures listed in the following table.

Air Conditioner Type	Implemented measures	Score
Package air conditioner or gas heat pump air conditioner	Heat source equipment having the average COP in cooling and heating modes of 1.25 or more is used.	60
	Heat source equipment having the average COP in cooling and heating modes of 1.00 or more is used.	20
	Other than those above.	0

The average COP in cooling and heating modes shall be the value calculated from the following equation.

The average COP in cooling and heating modes = q_c × "Average COP in cooling mode" + q_H × "Average COP in heating mode"

where q_c, q_H, "average COP in cooling mode" and "average COP in heating mode" respectively represent the values shown below:

q_c: The value shown in Table 2-2 selected according to the applications of the building and the regional classification

q_H: The value shown in Table 2-2 selected according to the applications of the building and the regional classification

Average COP in cooling mode: The value obtained by dividing the total rated cooling capacity of all the heat source equipment by the total amount of rated energy consumption for cooling of all the heat source equipment

Average COP in heating mode: The value obtained by dividing the total rated heating capacity of all the heat source equipment by the total amount of rated energy consumption for heating by all the heat source equipment

Rated energy consumption for cooling and rated energy consumption for heating shall be the values calculated from the following equations.

Rated Energy Consumption for Cooling	Rated Energy Consumption for Heating
$\alpha + C_w / 3600 + C_f$	$\alpha + H_w / 3600 + H_f$

Where α, C_w, C_f , H_w, and H_f respectively represent the values shown below:

α: Value shown in Column "Electricity" of Attached Table 3 according to the operation status of equipment that is important from the viewpoint of energy use

C_w: Rated power consumption for cooling (unit: kilowatt)

C_f: Rated fuel consumption for cooling (unit: kilowatt)

H_w: Rated power consumption for heating (unit: kilowatt)

H_f:	Rated fuel consumption for heating (unit: kilowatt)

2-6. Owners of specified buildings shall take proper measures to achieve efficient use of energy by air conditioning equipment, with due consideration given to the following practices.

(1) They shall maintain the system of air conditioning equipment, which is introduced by taking into consideration of the air conditioning load characteristics of rooms, etc.

(2) They shall maintain heat transfer equipment, which is introduced to minimize energy loss, by inspecting and repairing air ducts, piping, and others.

(3) They shall maintain the installed control system of air conditioning equipment by inspecting the operation status of heat source equipment, pumps, air conditioning equipment, and others.

(4) They shall maintain efficiency of energy use by the heat source system by inspecting the system.

Table 2-1

Building type	District	K_0	K_1	K_2	K_3	q_c	q_H
Column (1) of Attached Table 1	I	80	30	0	-10	0.1	0.9
	II	80	20	0	-10	0.2	0.8
	III	90	10	0	-15	0.3	0.7
	IV	90	10	0	-15	0.4	0.6
Column (2) of Attached Table 1	I	90	30	10	-5	0.1	0.9
	II	95	20	5	-10	0.3	0.7
	III	95	20	5	-10	0.5	0.5
	IV	95	10	5	-15	0.7	0.3
Column (3) of Attached Table 1	I	85	30	15	-5	0.3	0.7
	II	90	20	10	-10	0.5	0.5
	III	90	10	10	-10	0.7	0.3
	IV	95	5	5	-15	0.9	0.1
Column (4) of Attached Table 1	I	90	30	10	-5	0.2	0.8
	II	95	5	5	-10	0.4	0.6
	III	95	5	5	-10	0.6	0.4
	IV	95	5	5	-15	0.8	0.2
Column (5) of Attached Table 1	I	80	30	20	-10	0.1	0.9
	II	80	20	20	-10	0.3	0.7
	III	90	10	15	-10	0.5	0.5
	IV	95	5	10	-10	0.7	0.3
Column (6) of Attached Table 1	I	95	10	5	-10	0.2	0.8
	II	95	10	5	-10	0.4	0.6
	III	95	0	5	-15	0.6	0.4
	IV	95	0	5	-10	0.8	0.2
Column (7) of Attached Table 1	I	95	10	5	-5	0.2	0.8
	II	95	10	5	-10	0.4	0.6
	III	95	0	5	-10	0.6	0.4
	IV	95	0	5	-15	0.8	0.2

Districts I to IV represent the following prefectures:

District I: Hokkaido

District II: Aomori, Iwate, Akita, Miyagi, Yamagata, Fukushima, Gunma, Tochigi, Ibaraki, Niigata, Toyama, Ishikawa, Fukui, Nagano, Gifu

District III: Chiba, Saitama, Tokyo, Kanagawa, Yamanashi, Shizuoka, Aichi, Shiga, Mie, Nara, Kyoto, Hyogo, Okayama, Hiroshima, Yamaguchi, Shimane, Tottori, Osaka, Wakayama, Kagawa, Tokushima, Kochi, Ehime, Fukuoka, Saga, Nagasaki, Oita, Kumamoto

District IV: Miyazaki, Kagoshima, Okinawa

Table 2-2

Building type	District	J_0	J_1	J_2	q_c	q_h
Columns (1) and (2) of Attached Table 1	I	55	35	5	0.1	0.9
	II·III	55	25	5	0.3	0.7
	IV	60	15	5	0.5	0.5
Columns from (3) to (7) of Attached Table 1	I	60	30	5	0.2	0.8
	II·III	65	20	5	0.5	0.5
	IV	70	10	5	0.8	0.2

Districts I to IV represent the following prefectures:

District I: Hokkaido

District II: Aomori, Iwate, Akita, Miyagi, Yamagata, Fukushima, Gunma, Tochigi, Ibaraki, Niigata, Toyama, Ishikawa, Fukui, Nagano, Gifu

District III: Chiba, Saitama, Tokyo, Kanagawa, Yamanashi, Shizuoka, Aichi, Shiga, Mie, Nara, Kyoto, Hyogo, Okayama, Hiroshima, Yamaguchi, Shimane, Tottori, Osaka, Wakayama, Kagawa, Tokushima, Kochi, Ehime, Fukuoka, Saga, Nagasaki, Oita, Kumamoto

District IV: Miyazaki, Kagoshima, Okinawa

3. Efficient Use of Energy of Mechanical Ventilation Equipment Other Than Air Conditioning Equipment

3-1. Construction clients shall take proper measures to achieve efficient use of energy by mechanical ventilation equipment other than air conditioning equipment, with due consideration given to the following practices.

(1) They shall make a plan to minimize energy loss in air ducts and others.

(2) They shall adopt a proper control system for mechanical ventilation equipment other than air conditioning equipment.

(3) They shall introduce mechanical ventilation equipment with high energy efficiency and a proper capacity for the required ventilation volume.

3-2. The judgment whether construction clients have taken proper measures for the matters listed in Paragraph 3-1 related to mechanical ventilation equipment (except for air conditioning equipment and mechanical ventilation equipment with the rated output of 0.2kW or less, and limited to mechanical ventilation equipment of which total rated output is 5.5kW or more. The same applies to Paragraphs from 3-2 to 3-4) installed in a building (except for that of the building type described in Column (8) of Attached Table 1 and common in Paragraphs from 3-2 to 3-4) shall be made based on Paragraph 3-3. Note that the judgment for mechanical ventilation equipment installed in a building having a total floor area of 5,000 square meters or less may be made based on Paragraph 3-4, as well as Paragraph 3-3.

3-3. The value calculated by dividing the annual primary energy consumption for mechanical ventilation equipment installed in a building (hereinafter called the “primary energy consumption for ventilation”) in terms of heat quantity (Joule) by the annual assumed primary energy consumption for ventilation of the building in the same period in terms of heat quantity shall be equal to or smaller than the value specified in each cell of Raw (d) of Attached Table 1. In this case, when converting the quantity of consumed energy shown in the left-hand column of Attached Table 3 into the heat quantity, the corresponding value in the right-hand column of the table shall be used for the calculation. (If a smaller value than the value given in the right-hand column can be obtained by installing energy-efficient equipment, the smaller value shall be used.) For other energy types, the conversion shall depend on their actual data, such as their composition etc. The primary energy consumption for ventilation and the assumed primary energy consumption for ventilation shall be as specified in (1) and (2) below:

(1) The primary energy consumption for ventilation shall be the total of electric power consumption for one year by the units listed in a to c below:

a. Air charger

b. Exhaust unit

c. Other units required for the ventilation equipment concerned

(2) The assumed primary energy consumption for ventilation shall be calculated from the following equation:

$$E = Q \times T \times 3.676 \times 10^{-4}$$

where E, Q, and T represent the values shown below:

E: Assumed primary energy consumption for ventilation (unit: kWh)

Q: Design ventilation quantity (unit: m^3/hour)

T: Annual operation time (unit: hour)

3-4. For the mechanical ventilation equipment installed in buildings having a total floor area of 5,000 square meters or less that is important from the viewpoint of energy use and installed in non-air conditioned rooms, the score, which is calculated by adding 80 to the total scores selected based on the measures listed for each item in the table below, shall be 100 or more.

Item	Implemented measures	Score
Control system	Gas concentration sensor control system is provided in all parking spaces, or human detection control, temperature sensor control, lighting control system linked to illumination sensor, or time schedule control is provided in two thirds or more of the number of rooms (only non-air conditioned rooms; this is common in this table) provided with mechanical ventilation equipment except in parking spaces.	40
	Gas concentration sensor control system is provided in half or more of the total parking area, or human detection control, temperature sensor control, lighting control system linked to illumination sensor, or time schedule control is provided in one third or more of the number of rooms provided with mechanical ventilation equipment except in parking spaces.	20
	Other than those above	0
When a low-voltage three-phase squirrel-cage high efficiency induction motor is used	Two thirds or more of the number of motors	40
	One third or more and less than two thirds of the number of motors	20
	Less than one third of the number of motors	0
Ventilation by air chargers and exhaust units	Air chargers and exhaust units are used in half or less of the total car parking area or they are not used in all rooms provided with mechanical ventilation equipment.	10
	Other than those above	0

1. "Gas concentration sensor control system" means a control system by the concentration of carbon monoxide or dioxide.
2. "Parking space" means a room used for car parking facilities.
3. "Low-voltage three-phase squirrel-cage high efficiency induction motors" mean that defined by JIS C4212 (low-voltage three-phase squirrel-cage high efficiency induction motors).

3-5. Owners of specified buildings shall take proper measures to achieve efficient use of energy by mechanical ventilation equipment, with due consideration given to the following practices.

(1) They shall maintain air transport equipment, which is introduced to minimize energy loss, by inspecting and repairing air ducts and others.

(2) They shall maintain the control system of the introduced mechanical ventilation equipment by inspecting the operation status of fans and others.

(3) They shall maintain the ventilation performance and efficient use of energy of the introduced mechanical ventilation equipment by inspecting and cleaning it.

4. Efficient Use of Energy of Lighting Fixtures

4-1. Construction clients shall take proper measures to achieve efficient use of energy by lighting fixtures, with due consideration given to the following practices.

(1) They shall introduce lighting fixtures with high lighting efficiency.

(2) They shall adopt a proper control system for lighting fixtures.

(3) They shall install lighting fixtures in a manner that facilitates easy maintenance and management.

(4) They shall properly lay out lighting fixtures, set illuminance, and select room shape and interior finishes.

4-2. The judgment whether construction clients have taken proper measures for the matters listed in Paragraph 4-1 related to lighting fixtures (limited to lighting fixtures which are installed indoors mainly for the purpose of providing lighting necessary for work environment, excluding those installed for special purposes, such as evacuation and lifesaving purposes. The same applies from Paragraphs 4-2 to 4-5) installed in a building shall be made based on Paragraph 4-3. Note that the judgment for lighting fixtures installed in a building having a total floor area of 5,000 square meters or less may be made based on Paragraph 4-4, as well as Paragraph 4-3. The judgment for lighting fixtures installed in buildings having a total floor area of less than 2,000 square meters may be made based on Paragraph 4-5, as well as Paragraphs 4-3 and 4-4.

4-3. The value, which is calculated by dividing the annual primary energy consumption for lighting fixtures installed in a building (hereinafter called the “primary energy consumption for lighting”) in terms of heat quantity (Joule) by the annual assumed primary energy consumption for lighting of the building in the same period in terms of heat quantity, shall be equal to or smaller than the value specified in each cell of Row (e) of Attached Table 1. In this case, when converting the quantity of consumed energy shown in the left-hand column of Attached Table 3 into the heat quantity, the corresponding value in the right-hand column of the table shall be used for the calculation. (If a smaller value than the value given in the right-hand column can be obtained by installing energy-efficient equipment, the smaller value shall be used.) For other energy types, the conversion shall depend on their actual data, such as their composition. The primary energy consumption for lighting and the assumed primary energy consumption for lighting shall be as specified in (1) and (2) below:

(1) The primary energy consumption for lighting shall be the total of electric power for lighting calculated in a lighting section (which means a section where the type of lighting fixtures, control method and layouts of lighting fixtures, setting of illuminance, room shape, and interior finishes are the same; this is common in Section 4) from the following

equation:

$$E_T = W_T \times A \times T \times F/1{,}000$$

where E_T, W_T, A, T, and F are the values shown below:

E_T: Electric power consumption for lighting in each lighting section (unit: kWh)

W_T: Electric power in each lighting section (unit: W/m^2)

A: Floor area of each lighting section (unit: m^2)

T: Annual operation time of the lightning system of each lighting section (unit: hrs)

F: Coefficient specified in the table below for each lighting equipment control system

Control method	Coefficient
Human detection control by a card or sensor etc. Automatic flashing control by detection of brightness	0.80
Proper illuminance control	0.85
Time schedule control Daylighting control Zoning control Local control	0.90
Others	1.00

(2) The primary energy consumption for lighting shall be the total of the assumed electric power for lighting calculated in each lighting section from the following equation:

$$E_S = W_S \times A \times T \times Q_1 \times Q_2/1{,}000$$

where E_S, W_S, A, T, Q_1, and Q_2 are the values shown below:

Es: Assumed electric power for lighting in each lighting section (unit: kWh)

W_S: Standard electric power for lighting in each lighting section (unit: W/m^2)

A: Floor area of each lighting section (unit: m^2)

T: Annual operation time of the lightning system of each lighting section (unit: hrs)

Q_1: Coefficient specified in the table below for the type of lighting fixtures

Type of lighting fixtures	Coefficient
Lighting fixtures provided with special measures to reduce glare such as a louver and a translucent cover	1.3
Others	1.0

Q_2: Coefficient specified in the table below for the application and illuminance of lighting fixtures

Application	Coefficient
Sales floors in a building of the building type specified in Column (3) of Attached Table 1	L/750

and offices in a building of the building type specified in Column (4) of the table	
Classrooms in a building of the building type specified in Column (5) of Attached Table 1	L/500
Others	1.0

In this table, L denotes design illuminance (unit: lx).

4-4. For lighting fixtures installed in buildings having a total floor area of 5,000 square meters or less, for each lighting section that is important from the viewpoint of energy use, the score, which is calculated by adding 80 to the total of the evaluation scores listed in (1) to (3) below, shall be 100 or more. If there are two or more lighting sections, the score, which is calculated by adding 80 to an area-weighted average of the scores in all the lighting sections, shall be 100 or more.

(1) The evaluation score for the lighting efficiency of lighting fixtures shall be the total of the scores selected based on the measures listed for each item in the following table:

Item	Implemented measures		Score
Type of light source	Fluorescent lamps (other than compact fluorescent lamps)	Fluorescent lamps having an overall efficiency of 100 lm/W or more are used.	12
		Fluorescent lamps having an overall efficiency of 90 lm/W or more and less than 100 lm/W are used.	6
	Compact fluorescent, metal halide, or high-voltage sodium lamps are used.		6
	LED lamps are used.		6
	Other than those above.		0
Efficiency of lighting fixtures	Open-bottom fixtures	0.9 or more	12
		0.8 or more and less than 0.9	6
		Less than 0.8	0
	Lighting fixtures provided with a louver	0.75 or more	12
		0.6 or more and less than 0.75	6
		Less than 0.6	0
	Fixtures with a bottom cover	0.6 or more	12
		0.5 or more and less than 0.6	6
		Less than 0.5	0
	Other than those above		0

1. “Overall efficiency” means the value calculated by dividing the total luminous flux of fluorescent lamps (unit: lm) by the sum of electric power of such fluorescent lamps and their ballasts (unit: W).
2. “Efficiency of lighting fittings” means the value calculated by dividing the total luminous flux from lighting fittings (unit: lm) by the rated light flux of fluorescent, metal halide, or high-voltage sodium lamps (unit: lm).
3. “Open-bottom fixtures” mean fixtures that are not provided with a cover on their underside.
4. “Fixtures with a bottom cover” mean fixtures that are provided with a translucent cover on their underside.
5. “LED lamps” mean lamps using semidonductor devices that generate light when a voltage is applied to them.

(2) The evaluation score for the control method of lighting fixtures shall be the scores selected based on the measures listed in the following table:

Implemented measures	Score
Three or more methods out of seven control methods are used. The seven are human detection control by a card or sensor etc., automatic flashing control by detection of brightness, proper illuminance control, time schedule control, daylighting control, zoning control, and local control. This is common in this table.	22
One or two methods out of the seven control methods are used.	11
Other than those above	0

(3) The evaluation score for the layouts of lighting fixtures, setting of illuminance, and selection of room shape and interior finishes shall be the total of scores selected based on the measures listed for each item in the following table:

Item	Implemented measures	Score
Layouts of lighting fixtures and setting of illuminance	The TAL system is used in 90% or more of the area of a lighting section that serves as an office.	22
	The TAL system is used in 50% or more and less than 90 % of the area of a lighting section that serves as an office.	11
	Other than those above	0
Selection of room shape	The room index is 5.0 or more.	12
	The room index is 2.0 or more and less than 5.0.	6
	Other than those above	0
Selection of interior finishes	The reflection coefficient of the ceiling plane, the wall surface, and the floor face is 70% or more, 50% or more, and 10% or more, respectively.	12
	The reflection coefficient of the ceiling plane, the wall surface, and the floor face is 70% or more, 30% or more and less than 50%, and 10% or more, respectively.	6
	Other than those above	0

1. The “TAL system” stands for the task ambient lighting system.
2. Room index k shall be the value calculated from the following equation:

$$k = X \times Y / H \times (X + Y)$$

where X, Y, and H are the values shown below:

X: Width of the room (unit: m)

Y: Depth of the room (unit: m)

H: Height from the working plane to the lighting fittings (Height from the floor surface to the ceiling, in case of the rooms other than offices or classrooms) (unit: m)

3. The “reflection coefficient” means the area-weighted average of the reflection coefficients of each member on the ceiling, wall surface, and floor face.

4-5. For lighting fixtures installed in buildings having a total floor area of less than 2,000 square meters, for each lighting section that is important from the viewpoint of energy use, the score, which is calculated by adding 80 to the total of the evaluation scores listed in (1) to (3) below, shall be 100 or more. If there are two or more lighting sections, the score, which is calculated by adding 80 to an area-weighted average of the scores of all the lighting sections, shall be 100 or more.

(1) The evaluation score for the lighting efficiency of lighting fixtures shall be the total of the scores selected based on the measures listed in the following table:

Implemented measures		Score
Fluorescent lamps (other than compact fluorescent	Lamps exclusively for high-frequency lighting are	12

lamps)	used.	
	Other than those above.	0
Compact fluorescent lamps, metal halide lamps, or high-voltage sodium lamps, are used.		6
LED lamps are used.		6
Other than those above.		0
"LED lamps" means lamps using semidonductor devices that generate light when a voltage is applied to them.		

(2) The evaluation score for the control method of lighting fixtures shall be the scores selected based on the measures listed in the following table:

Implemented measures	Score
Two methods out of seven control methods are used. The seven methods are: human detection control by a card or sensor etc., automatic flashing control by detection of brightness, proper illuminance control, time schedule control, daylighting control, zoning control, and local control. The same applies to this table.	22
One method out of those seven control methods is used.	11
Other than those above.	0

(3) The evaluation score for the layouts of lighting fixtures and setting of illuminance shall be the scores selected based on the measures listed in the following table:

Item	Implemented measures	Score
Layouts of lighting fixtures and setting of illuminance	The TAL system is used in 90% or more of the area of a lighting section that serves as an office.	22
	The TAL system is used in 50% or more and less than 90 % of the area of a lighting section that serves as an office.	11
	Other than those above.	0
The "TAL system" stands for the task ambient lighting system.		

4-6. Owners of specified buildings shall take proper measures to achieve efficient use of energy by lighting fixtures, with due consideration given to the following practices.

(1) They shall maintain the lighting efficiency of the installed lighting fixtures by inspecting and cleaning them.

(2) They shall maintain the control method of the installed lighting fixtures by inspecting its operation status.

(3) They shall maintain the installation system, which is introduced by taking into consideration maintenance management.

(4) They shall maintain the layouts of lighting fixture, illuminance, room shape, interior finishes, etc.

5. Efficient Use of Energy of Hot Water Supply Equipment

5-1. Construction clients shall take proper measures to achieve efficient use of energy by hot water supply equipment, with due consideration given to the following practices.

(1) They shall consider shorter piping, thermal insulation of piping, etc. in planning proper piping.

(2) They shall adopt a proper control system for hot water supply equipment.

(3) They shall adopt an energy-efficient heat source system.

5-2. The judgment whether construction clients have taken proper measures for the matters listed in Paragraph 5-1 related to hot water supply equipment (limited to the central heat source system having a hot water return pipe. The same applies to Paragraphs from 5-2 to 5-5) installed in a building shall be made based on Paragraph 5-3. Note that the judgment for hot water supply equipment installed in a building having a total floor area of 5,000 square meters or less may be made based on Paragraph 5-4, as well as Paragraph 5-3. The judgment for hot water supply equipment installed in buildings having a total floor area of less than 2,000 square meters may be made based on Paragraph 5-5 as well as Paragraphs 5-3 and 5-4.

5-3. The value, which is calculated by dividing the annual primary energy consumption for hot water supply equipment installed in a building (hereinafter called the "primary energy consumption for hot water supply") in terms of heat quantity (Joule) by the annual assumed hot water supply load of the building in the same period in terms of heat quantity, shall be equal to or smaller than the value specified in Row (f) of Attached Table 1. In this case, when converting the quantity of consumed energy shown in the left-hand column of Attached Table 3 into the heat quantity, the corresponding value in the right-hand column of the table shall be used for the calculation. (If a smaller value than the value given in the right-hand column can be obtained by installing energy-efficient equipment, the smaller value shall be used.) For other energy types, the conversion shall depend on their actual data, such as their composition. The primary energy consumption for hot water supply and the assumed hot water supply load shall be as specified in (1) and (2) below:

(1) The primary energy consumption for hot water supply shall be the total of energy consumed for units listed in a to c below for one year:

a. Boiler and other heat source equipment for hot water supply

b. Circulating pump

c. Other units required for the hot water supply systems concerned

(2) The assumed hot water supply load shall be the total of the assumed hot water supply load calculated for each location where hot water is used from the following equation:

$$L = 4.2V \times (T_1 - T_2)$$

where L, V, T_1, and T_2 are the values shown below:

L: Assumed hot water supply load (unit: kilojoules)

V: Quantity of hot water used (unit: l)

T_1: Hot water temperature used (unit: ºC)

T_2: Feed water temperature by region (unit: ºC)

5-4. For hot water supply equipment installed in buildings having a total floor area of 5,000 square meters or less that is important from the viewpoint of energy use, the score, which is calculated by adding 70 to the total scores of the scores specified in (1) to (5) below, shall be 100 or more.

(1) The evaluation score for the piping plan shall be the total of the scores selected based on the measures listed for each item in the following table (When there are two or more measures for one item, the highest score among the corresponding scores shall be used.)

Item	Implemented measures	Score
Thermal insulation of circulation piping	Thermal Insulation Specification 1 is used for all of them.	30
	Thermal Insulation Specification 1 or 2 is used for all of them.	20
	Thermal Insulation Specification 1, 2, or 3 is used for all of them.	10
	Other than those above	0
Thermal insulation of valves and flanges related to circulation piping	All the valves and flanges are insulated.	10
	More than half of the valves and flanges are insulated.	5
	Other than those above	0
Thermal insulation of the primary piping	Thermal Insulation Specification 1 is used for all of them.	6
	Thermal Insulation Specification 1 or 2 is used for all of them.	4
	Thermal Insulation Specification 1, 2, or 3 is used for all of them.	2
	Other than those above	0
Thermal insulation of valves and flanges of the primary piping	All the valves and flanges are insulated.	2
	Other than those above	0
Circulation piping route and pipe diameter	All the circulation piping is installed in air-conditioned rooms or spaces surrounded by air-conditioned rooms, the piping is made to be the shortest, and the pipe diameters are minimized.	3
	All the circulation piping is installed in air-conditioned rooms or spaces surrounded by air-conditioned rooms.	2
	All the circulation piping is made to be the shortest and their pipe diameters are minimized.	1
	Other than those above	0
End-stop piping and pipe diameter	All the circulation piping is made to be the shortest and their pipe diameters are minimized.	1
	Other than those above	0
Primary piping	All the circulation piping is installed in air-conditioned rooms or spaces surrounded by air-conditioned rooms.	1
	Other than those above	0

1. "Circulation piping" means duplex piping with outgoing and return pipes combined in hot water supply plumbing.
2. "End-stop piping" means single piping with only an outgoing pipe among hot water pipes.
3. "Primary piping" means piping for heat medium that circulates a heat source and a heat exchanger for hot

water supply.

4. “Thermal Insulation Specification 1” means the specification defining a thermal insulator thickness of 30 mm or more for a pipe having a pipe diameter of less than 40 mm, a thermal insulator thickness of 40 mm or more for a pipe having a pipe diameter of 40 mm or more and less than 125 mm, and a thermal insulator thickness of 50 mm or more for a pipe having a pipe diameter of 125 mm or more.
5. “Thermal Insulation Specification 2” means the specification defining a thermal insulator thickness of 20 mm or more for a pipe having a pipe diameter of less than 50 mm, a thermal insulator thickness of 25 mm or more for a pipe having a pipe diameter of 50 mm or more and less than 125 mm, and a thermal insulator thickness of 30 mm or more for a pipe having a pipe diameter of 125 mm or more.
6. “Thermal Insulation Specification 3” means the specification defining a thermal insulator thickness of 20 mm or more for a pipe having a pipe diameter of less than 125 mm, and a thermal insulator thickness of 25 mm or more for a pipe having a pipe diameter of 125 mm or more.
7. A “thermal insulator” means a material having a thermal conductivity of 0.044 or less (unit: W/m/degree centigrade).

(2) The evaluation score for the control system of hot water supply equipment shall be the total of the scores selected based on the measures listed for each item in the following table: (When there are two or more measures for one item, the highest score among the corresponding scores shall be used.)

Item	Implemented measures	Score
How to control a circulating pump	Flow control or quantity control system depending on the hot water supply load is adopted.	2
	A control system to stop hot water circulation depending on the hot water supply load is adopted.	1
	Other than those above	0
How to control hydrants in a lavatory in common-use space	An automatic hydrant is used for 80% or more of the hydrants in a lavatory in common use space.	The value obtained by dividing the amount of hot water used with a hydrant in a lavatory in common-use space by the total amount of hot water used and then multiplying by 40
	Other than those above	0
How to control shower facilities	All shower facilities are provided with water-saving automatic temperature controllers.	The value obtained by dividing the amount of hot water used by shower facilities by the total amount of hot water used, and then multiplying by 25
	Other than those above	0

(3) The evaluation score for the efficiency of heat source equipment shall be the score selected based on the measures listed in the following table: (When there are two or more measures are applicable, the highest score among the corresponding scores shall be used.)

Implemented measures	Score
The efficiency of heat source equipment is 90% or more.	15
The efficiency of heat source equipment is 85% or more and less than 90%.	10
The efficiency of heat source equipment is 80% or more and less than 85%.	5
The efficiency of heat source equipment is less than 80%.	0

“Efficiency of heat source equipment” means the value calculated by dividing the value of the rated heating capacity converted into the heat quantity based on the values in Attached Table 3 listed according to the energy type by the heat consumption.

(4) When solar heat is used as a heat source, the evaluation score to be added shall be obtained by multiplying by 100 the value calculated by dividing the quantity of solar heating (unit: kilojoules/year) by the hot water supply load (unit: kilojoules/year).

(5) When supplied water is preheated, the evaluation score to be added shall be obtained by multiplying by 100 the value calculated by dividing the annual average of water temperature raise by preheating (unit: ºC) by a temperature difference between the temperature of hot water used (unit: ºC) and the annual average of supplied water temperature by region (unit: ºC).

5-5. For hot water supply equipment installed in a building having a total floor area of less than 2,000 square meters that is important from the viewpoint of energy use, the score, which is calculated by adding 80 to the total of the scores specified in (1) to (5) below, shall be 100 or more.

(1) The evaluation score for the piping plan shall be the total of the scores selected based on the measures listed in the following table (when there are two or more measures for one item, the highest score among the corresponding scores shall be used.)

Implemented measures	Score
Thermal Insulation Specification 1 or 2 is used for all of the circulation piping.	20
Thermal Insulation Specification 1, 2 or 3 is used for all of the circulation piping.	10
Thermal Insulation Specification 1 or 2 is used for the primary piping.	4
Thermal Insulation Specification 1, 2 or 3 is used for the primary piping.	2
Thermal Insulation Specification 3 is used for valves and flanges installed in either circulation piping or primary piping.	2
The path length and pipe diameter of the circulation piping and primary piping are minimized.	2
The path length and pipe diameter of the end-stop piping are minimized.	1
1. "Circulation piping" means duplex piping with outgoing and return pipes combined in hot water supply plumbing. 2. "End-stop piping" means single piping with only an outgoing pipe among hot water pipes. 3. "Primary piping" means piping for heat medium that circulates a heat source and a heat exchanger for hot water supply. 4. "Thermal Insulation Specification 1" means the specification defining that a thermal insulator thickness for a pipe having a pipe diameter of less than 40mm shall be 30mm or more, that a thermal insulator thickness for a pipe having a pipe diameter of 40mm or more and less than 125mm shall be 40mm or more, and that a thermal insulator thickness for a pipe having a pipe diameter of 125mm or more shall be 50mm or more. 5. "Thermal Insulation Specification 2" means the specification defining that a thermal insulator thickness for a pipe	

having a pipe diameter of less than 50mm shall be 20mm or more, that a thermal insulator thickness for a pipe having a pipe diameter of 50mm or more and less than 125mm shall be 25mm or more, and that a thermal insulator thickness for a pipe having a pipe diameter of 125mm or more shall be 30mm or more.

6. "Thermal Insulation Specification 3" means the specification defining that a thermal insulator thickness for a pipe having a pipe diameter of less than 125mm shall be 20mm or more, and that a thermal insulator thickness for a pipe having a pipe diameter of 125mm or more shall be 25mm or more.

7. A "thermal insulator" means a material having a thermal conductivity of 0.044 or less (unit: W/m/degree centigrade).

(2) The evaluation score for the control system of hot water supply equipment shall be the scores selected based on the measures listed in the following table:

Implemented measures	Score
The control methods, such as the flow control or quantity control method depending on the hot water supply load, and the start and stop operation control method, are used for the circulation piping.	2
An automatic hydrant is used for the hydrants in lavatories located in common-use space.	2
Shower facilities are provided with water-saving automatic temperature controllers.	5

(3) The evaluation scores shall be 10 when either latent heat recovery water heaters or heat pump water heaters are used.

(4) The evaluation scores shall be 10 when solar heat is used.

(5) The evaluation scores shall be 5 when supply water is preheated.

5-6. Owners of specified buildings shall take proper measures to achieve efficient use of energy by hot water supply equipment, with due consideration given to the following practices.

(1) They shall maintain the piping facilities, which are installed to minimize energy loss, by inspecting and repairing pipes.

(2) They shall maintain the control system of the installed hot water supply equipment by inspecting the operation status of heat source equipment, pumps, and other units.

(3) They shall maintain the energy efficiency of the installed heat source equipment by inspecting it.

6. Efficient Use of Energy of Vertical Transportation

6-1. Construction clients shall take proper measures to achieve efficient use of energy by vertical transportation, with due consideration given to the following practices.

(1) They shall adopt a proper control system for vertical transportation.

(2) They shall adopt a drive system with high energy efficiency.

(3) They shall adopt a proper installation plan for the required transport capacity.

6-2. The judgment whether construction clients have taken proper measures for the matters listed in Paragraph 6-1 related to elevators (limited to the cases where three or more elevators are installed. The same applies to Paragraphs from 6-2 to 6-4) among vertical transportation installed in a building (only for that of the building type described in Column (1) and Column (4) of Attached Table 1 and common in Paragraphs from 6-2 to 6-4) shall be made based on Paragraph 6-3. Note that the judgment for elevators among vertical transportation installed in a building having a total floor area of 5,000 square meters or less may be made based on Paragraph 6-4, as well as Paragraph 6-3.

6-3. The value, which is calculated by dividing the annual primary energy consumption for elevators installed in a building (hereinafter called the “primary energy consumption for elevators”) in terms of heat quantity (Joule) by the annual assumed primary energy consumption for elevators of the building in the same period in terms of heat quantity, shall be equal to or smaller than the value specified in each cell of Row (g) of Attached Table 1. In this case, when converting the quantity of consumed energy shown in the left-hand column of Attached Table 3 into the heat quantity, the corresponding value in the right-hand column of the table shall be used for the calculation. (If a smaller value than the value given in the right-hand column can be obtained by installing energy-efficient equipment, the smaller value shall be used.) For other energy types, the conversion shall depend on their actual data, such as their composition. The primary energy consumption for elevators and the assumed primary energy consumption for elevators shall be as specified in (1) and (2) below:

(1) The primary energy consumption for elevators shall be the total electric power for all elevators, calculated from the following equation:

$$E_T = L \times V \times F_T \times T/860$$

where E_T, L, V, F_T, and T are the values shown below:

E_T: Electric power for elevators (unit: kWh)

L: Loading weight (unit: kg)

V: Rated velocity (unit: m/minute)

F_T: Coefficient specified in the table below for each velocity control system (If there is an alternative coefficient calculated obtained by the result of special study or research, it may be used instead.)

T: Annual operation time (unit: hour)

Velocity control system	Coefficient
Variable voltage variable frequency control system (with power regenerative control)	1/45
Variable voltage variable frequency control system (without power regenerative control)	1/40
Static Leonard system	1/35
Ward Leonard system	1/30
AC feedback control system	1/20

(2) The assumed primary energy consumption for elevators shall be the total of the values calculated by multiplying the assumed electric power for each elevator by the transport capacity coefficient. In this case, the assumed electric power for each elevator and the transport capacity coefficient shall be as specified in a and b below:

a. The assumed electric power for each elevator shall be calculated from the following equation:

$$E_S = L \times V \times F_S \times T/860$$

where E_s, L, V, F_s, and T are the values shown below:

E_S: Assumed electric power for each elevator (unit: kWh)

L: Loading weight (unit: kg)

V: Rated velocity (unit: m/minute)

F_S: Coefficient by velocity control system (1/40)

T: Annual operation time (unit: hour)

b. The transport capacity coefficient shall be calculated from the following equation: Note that when the building concerned is a building of the building type listed in Column (4) of Attached Table 1 with four or fewer floors or a total floor area of 4,000 m^2 or less, the value obtained by dividing the average operation interval (unit: second) by 30 shall be used as the transport capacity coefficient (if the average operation interval is thirty second or more, the transport capacity coefficient shall be 1).

$$M = A_1/A_2$$

where M, A_1, and A_2 are the values shown below:

M: Transport capacity coefficient

A_1: Standard transport capacity specified in the table below depending on the application and actual data of the building concerned

A_2: Planned transport capacity calculated by dividing the number of people that can be transported by the elevator in five minutes by the average number of people who use the elevator in a five-minute period

Application of the building concerned	Actual data of the building concerned	Standard transport capacity
Application listed in Row (4) of Attached Table 1	When occupied by a single company	0.25
	In other cases	0.20
Application listed in Row (1) of Attached Table 1	-	0.15

6-4. For the elevators installed in buildings having a total floor area of 5,000 square meters or less that are important from the viewpoint of energy use, the score, which is calculated by adding 80 to the total of evaluation scores for the elevator control specified in the following table, shall be 100 or more.

Implemented measures	Score
One or more units by the variable voltage variable frequency control system (with power regenerative control) are used.	40
One or more units by the variable voltage variable frequency control system (without power regenerative control) are used.	20
Other than those above	0

6-5. Owners of specified buildings shall take proper measures to achieve efficient use of energy by the vertical transportation, with due consideration given to the following practices.

(1) They shall maintain the control system of the installed vertical transportation by inspecting its operation status.

(2) They shall maintain the energy efficiency of the installed drive system by inspecting the drive unit.

Attached Table 1

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a)	Hotels and others	Hospitals and others	Shops selling goods and others	Offices and others	Schools and others	Restaurants and others	Halls and others	Factories and others
(b)	420 Hotels and others in the cold district shall be 470.	340 Hospitals and others in the cold district shall be 370.	380	300	320	550	550	-
(c)	2.5	2.5	1.7	1.5	1.5	2.2	2.2	-
(d)	1.0	1.0	0.9	1.0	0.8	1.5	1.0	-
(e)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
(f)	1.5 when $0 < I_x \leq 7$ 1.6 when $7 < I_x \leq 12$ 1.7 when $12 < I_x \leq 17$ 1.8 when $17 < I_x \leq 22$ 1.9 when $22 < I_x$							
(g)	1.0	-	-	1.0	-	-	-	-

1. "Hotels and others" mean hotels, Japanese-style hotels, and other facilities which are similar from the viewpoint of energy use.
2. "Hospitals and others" mean hospitals, nursing homes, institutions for those with physical disabilities, and other facilities which are similar from the viewpoint of energy use.
3. "Shops selling goods and others" mean department stores, markets, and other facilities which are similar from the viewpoint of energy use.
4. "Offices and others" mean offices, government and other public offices, libraries, museums, and other facilities which are similar from the viewpoint of energy use.
5. "Schools and others" mean elementary, junior high, and senior high schools, universities, technical colleges, advanced vocational schools, professional schools, and other facilities which are similar from the viewpoint of energy use.
6. "Restaurants and others" mean restaurants, buffets, coffee houses, cabarets, and other facilities which are similar from the viewpoint of energy use.
7. "Halls and others" mean auditoriums, halls, bowling alleys, gymnasiums, theaters, cinemas, pachinko parlors, other facilities which are similar from the viewpoint of energy use.
8. "Factories and others" mean factories, livestock barns, garages, bicycle-parking areas, warehouses, pavilions, wholesale markets, crematories, and other facilities which are similar from the viewpoint of energy use.
9. In this table, I_x shall be the value calculated by dividing the sum of the length of the circulation piping for supplying hot water and that of the primary piping (unit: m) by the daily mean of the total amount of hot water consumed (unit: m^3).

Attached Table 2

Average floor / Number of floors excluding basement	50 m^2 or less	100 m^2	200 m^2	300 m^2 or more
1	2.40	1.68	1.32	1.20
2 or more	2.00	1.40	1.10	1.00

When an average floor area is an intermediate value between two values shown in this table, the scale correction coefficient shall be calculated linearly using the ones of the two values of floor area in the table.

Attached Table 3

Heavy oil	41,000 kilojoules per liter
Kerosene	37,000 kilojoules per liter
Liquefied petroleum gas	50,000 kilojoules per kilogram
Heat supplied by other people (steam, hot water, and cold water)	1.36 kilojoules per kilogram
Electricity	9,760 kilojoules per kWh (when purchasing nighttime power, 9,970 kilojoules per kWh for the amount of electric power consumption for daytime power purchased and 9,280 kilojoules per kWh for the amount of electric power consumption for nighttime power purchased) Nighttime power purchased means supply of electric power by general electric utilities stipulated in Paragraph 2 of Section 1 of Article 2 of the Electricity Enterprises Law (Law No. 170, 1964) between 22:00 and 8:00 the following day. Daytime power purchased means supply of electric power by general electric utilities stipulated in the same paragraph between 8:00 and 22:00.