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Table 9 Desirable Wind Speeds (m/s) for Thermal Comfort Conditions

(*Clause* 5.2.3.1.2)

Sl. No.	Dry Bulb Temperature °C	Relative Humidity Percent						
		30	40	50	60	70	80	90
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
i)	28	1)	1)	1)	1)	1)	1)	1)
ii)	29	1)	1)	1)	1)	1)	0.06	0.19
iii)	30	1)	1)	1)	0.06	0.24	0.53	0.85
iv)	31	1)	0.06	0.24	0.53	1.04	1.47	2.10
v)	32	0.20	0.46	0.94	1.59	2.26	3.04	2)
vi)	33	0.77	1.36	2.12	3.00	2)	2)	2)
vii)	34	1.85	2.72	2)	2)	2)	2)	2)
viii)	35	3.20	2)	2)	2)	2)	2)	2)

1) None.
2) Higher than those acceptable in practice.

Table 10 Minimum Wind Speeds (m/s) for Just Acceptable Warm Conditions

(*Clause* 5.2.3.1.2)

Sl No.	Dry Bulb Temperature °C	Relative Humidity Percent						
		30	40	50	60	70	80	90
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
i)	28	1)	1)	1)	1)	1)	1)	1)
ii)	29	1)	1)	1)	1)	1)	1)	1)
iii)	30	1)	1)	1)	1)	1)	1)	1)
iv)	31	1)	1)	1)	1)	1)	0.06	0.23
v)	32	1)	1)	1)	0.09	0.29	0.60	0.94
vi)	33	1)	0.04	0.24	0.60	1.04	1.85	2.10
vii)	34	0.15	0.46	0.94	1.60	2.26	3.05	2)
viii)	35	0.68	1.36	2.10	3.05	2)	2)	2)
ix)	36	1.72	2.70	2)	2)	2)	2)	2)

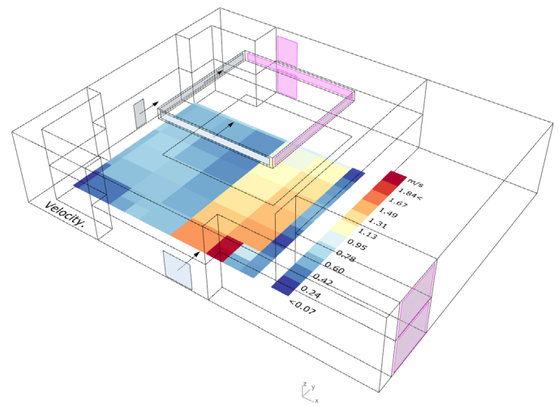
1) None.
2) Higher than those acceptable in practice.

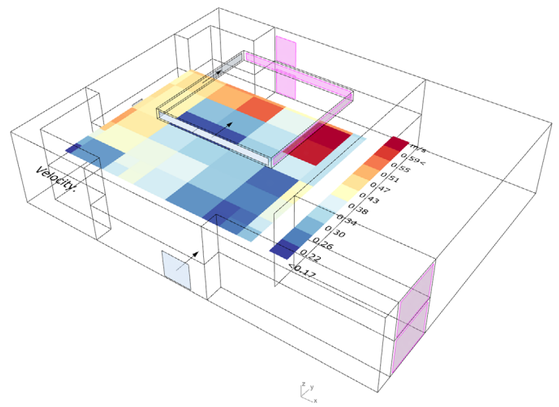
Table 9 from National Building Code of India indicates the desirable wind speeds for thermal comfort conditions & Minimum wind speed requirements.

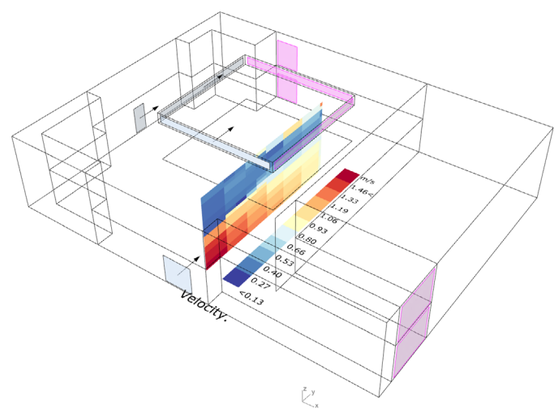
Project mentioned here is at Gandhinagar, Gujarat. Nearest Weather station is at Ahmedabad.
According to the same, Average Dry Bulb Temperature of this region is around 33 ° C & Average Relative Humidity is around 60.

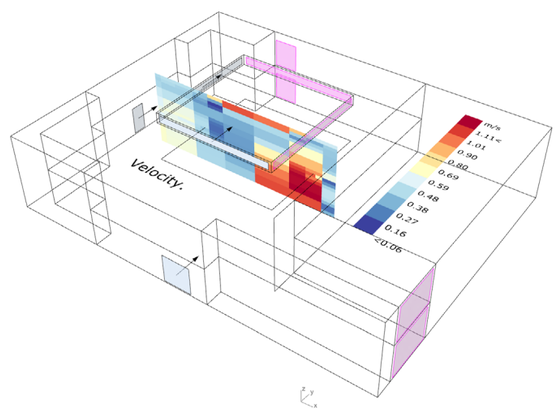
Hence, 1.Desirable Wind Speeds (m/s) for Thermal Comfort is 3.00 m/s
2.Minimum Wind Speeds (m/s) for Just Acceptable Warm Conditions is 0.60 m/s

Tools used for the simulation are Rhino+GH & Ladybug Tools.









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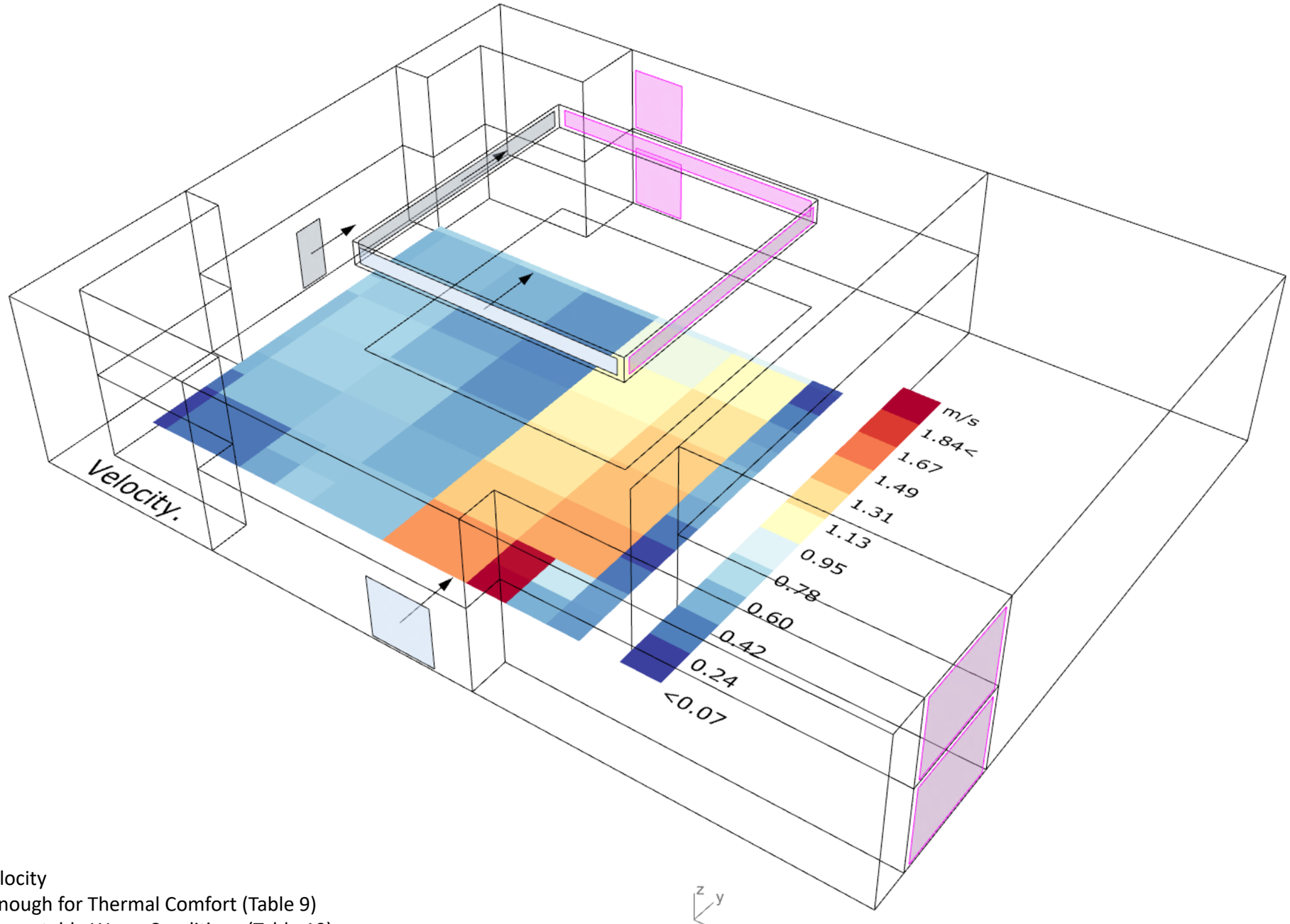

Ground Floor - Wind Velocity
Fresh Air intake is not enough for Thermal Comfort (Table 9)
Fresh Air intake is just Acceptable Warm Conditions (Table 10)

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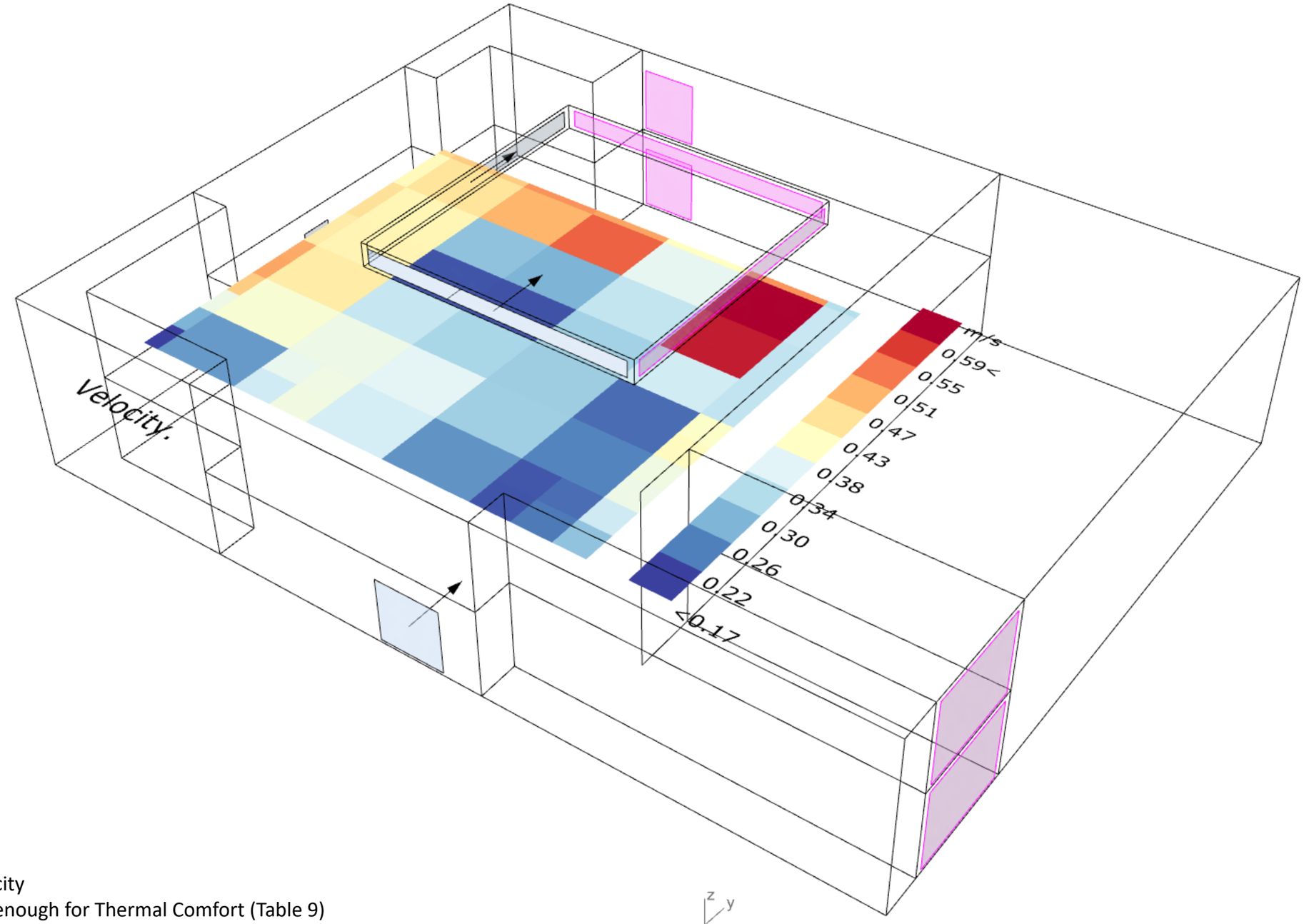

First Floor - Wind Velocity
Fresh Air intake is not enough for Thermal Comfort (Table 9)
Fresh Air intake is not achieving Acceptable Warm Conditions (Table 10)

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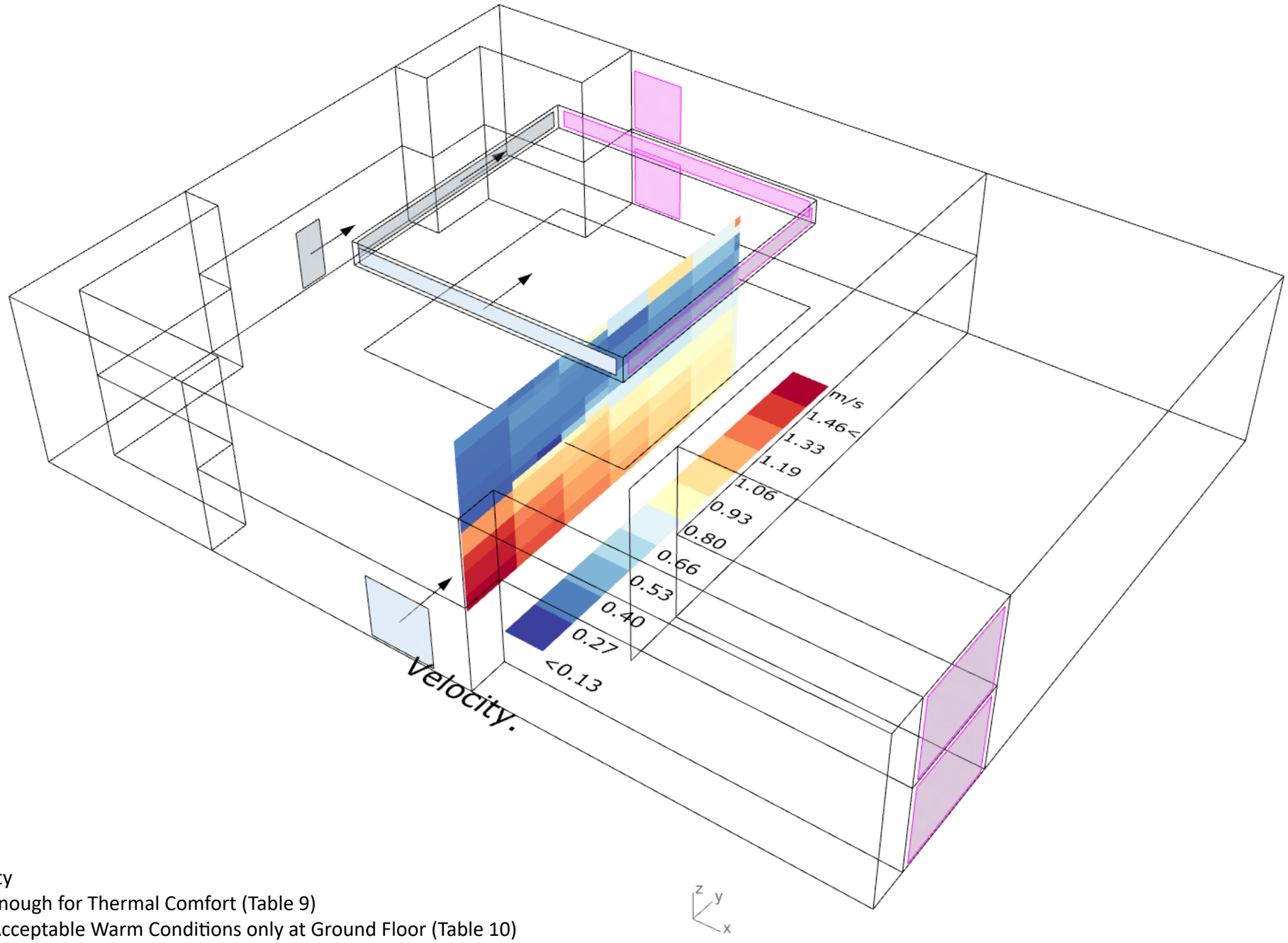

Section A - Wind Velocity
Fresh Air intake is not enough for Thermal Comfort (Table 9)
Fresh Air intake is just Acceptable Warm Conditions only at Ground Floor (Table 10)

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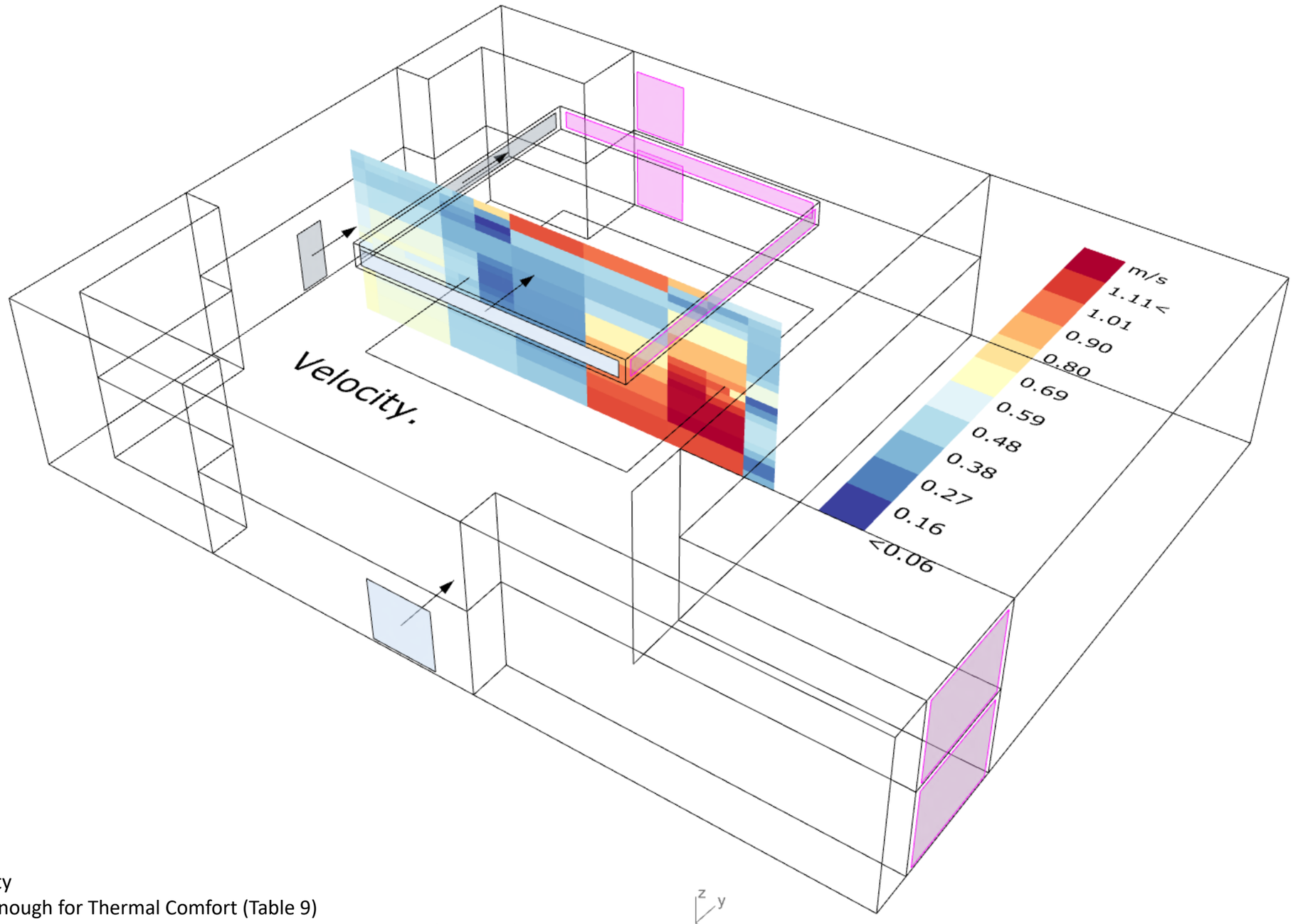

Section B - Wind Velocity
Fresh Air intake is not enough for Thermal Comfort (Table 9)
Fresh Air intake is just Acceptable Warm Conditions only at Ground Floor (Table 10)