

**CAPVU
Evaporator Coil
A Coil – Uncased
Upflow, Downflow**



Product Data

The CAPVU evaporator coils incorporate proven standards for reliable system operation and performance throughout the life of a quality Carrier Air Conditioner or Heat Pump system. Evaporator coils manufactured by Carrier and installed as part of a total comfort system provide ARI-rated performance ratings and are additionally listed with UL and c-UL.

DESIGN FEATURES

Performance — Designed with performance in mind, these A-coils offer low pressure drops to enhance system performance and airflow characteristics.

Aluminum Coils — Models are built with aluminum hairpins, designed to resist both general pitting corrosion and excessive indoor Formicary Corrosion. (Formicary Corrosion is an industry phenomenon.)

Thermostatic Expansion Valves (TXV) — All Carrier coils have refrigerant-specific, factory-installed TXVs.

Durable Condensate Pan — The corrosion-resistant drain pan is designed with a “fiberglass reinforced thermoset polyester” material (FRTP) that offers unsurpassed pan strength. It is engineered with proper slope to help ensure water drainage, reduced pan sweating and improved moisture removal for better home comfort.

Refrigerant Connections — The coils are provided with proven sweat connections for leak-free operation maintaining system reliability. The side mounting tubing to the coil slabs allows for easy cleaning and servicing of the coils, as well as easy access to the TXV.

Burst Pressure — These coils meet or exceed burst pressure of 2100 psi which is at least three to five times the pressure they will see in actual application.

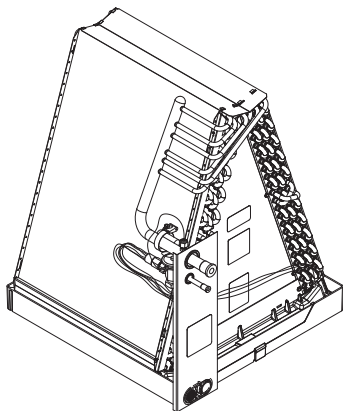
UV Knockouts — The cased coils also come with factory-installed UV knockouts for quick and easy installation of Carrier UV lights.

Serviceability — All the coils come with a “split-delta plate” for easy, quick access to the coil for service and cleaning. Also the coils are removable from the front of the unit without use of any tools (once the door is removed). The units are also designed with a single size screw, the same size as used on all our Carrier furnaces. One tool required for all jobs.

Installation Flexibility — The CAPVU evaporator coils are uncased A-coils that provide flexibility for a wide variety of field applications installed in either a factory-manufactured accessory casing, or a field-supplied plenum enclosure. Water management capabilities have been enhanced for downflow applications.

Coil Support — Carrier provides a standard factory pan support for the uncased coil, providing precise, durable support in the plenum for easier installations.

Face Plate — A unique Carrier feature, the face plate comes shipped with the uncased evaporator coil models, provides for a



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more professional installation and prevents air leaks at the refrigerant line connections.

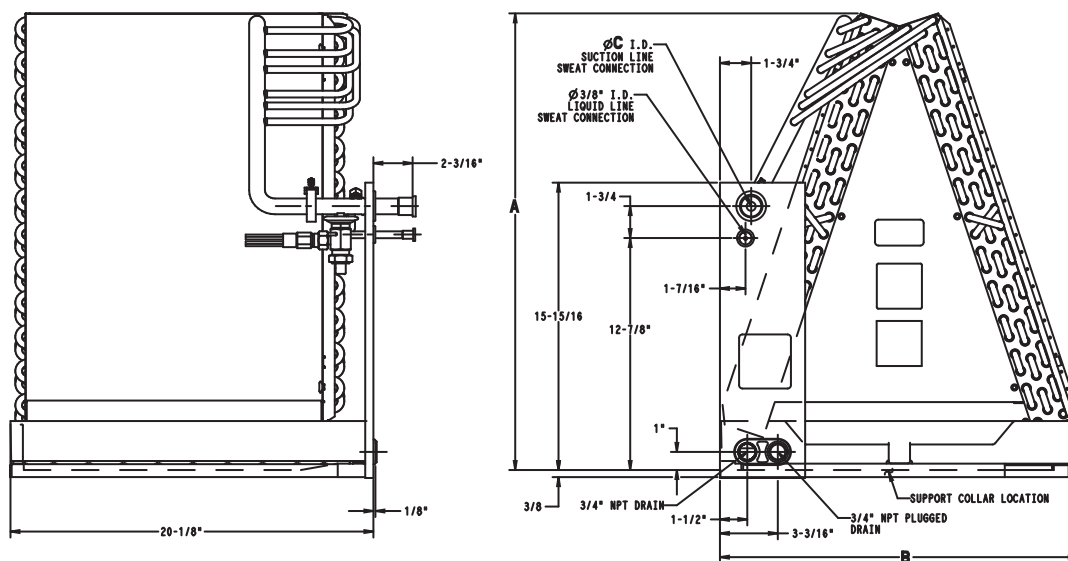
MODEL NUMBER NOMENCLATURE

1	2	3	4	5	6	7	8	9	10	11	12
C	A	P	V	U	1	8	1	4	A	C	A
Product C = Coil										Variations A = Basic	
Type A – A Coil										Tubing Design L = Aluminum	
Refrigerant Type P = Puron® (R-410A) Refrigerant TXV										Revision Level A = 1st	
Coil Configuration V = Upflow / Downflow										Cabinet Width 14 = 14-in. / 356mm 17 = 17-in. / 432mm 21 = 21-in. / 533mm 24 = 24-in. / 610mm	
Cabinet Finish P = Painted U = Uncased										Unit Capacity 18 = 1 1/2 Ton 24 = 2 Ton 30 = 2 1/2 Ton 36 = 3 Ton 42 = 3 1/2 Ton 48 = 4 Ton 60 = 5 Ton	



Use of the AHRI Certified TM Mark indicates a manufacturer's participation in the program. For verification of certification for individual products, go to www.ahridirectory.org.





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DIMENSIONS - CAPVU

UNIT	A in. (mm.)	B in. (mm.)	C in. (mm.)	SHIPPING WT. lb. (kg.)
CAPVU1814ALA	13-5/8 (346)	13 (330)	5/8 (16)	21.0 (10)
CAPVU2414ALA	17-3/4 (451)	13 (330)	5/8 (16)	25.0 (12)
CAPVU2417ALA	17-1/4 (438)	16-5/16 (414)	5/8 (16)	28.0 (12)
CAPVU3014ALA	21-7/8 (556)	13 (330)	3/4 (19)	32.0 (14)
CAPVU3017ALA	21-7/16 (545)	16-5/16 (414)	3/4 (19)	32.0 (14)
CAPVU3614ALA	23-15/16 (608)	13 (330)	3/4 (19)	31.0 (14)
CAPVU3617ALA	23-9/16 (598)	16-5/16 (414)	3/4 (19)	35.0 (16)
CAPVU3621ALA	23 (584)	19-13/16 (503)	3/4 (19)	36.0 (16)
CAPVU4221ALA	25-1/16 (637)	19-13/16 (503)	7/8 (22)	38.0 (17)
CAPVU4224ALA	24-1/2 (622)	23-5/16 (592)	7/8 (22)	42.0 (19)
CAPVU4817ALA	29-7/8 (759)	16-5/16 (414)	7/8 (22)	50.0 (23)
CAPVU4821ALA	25-5/16 (643)	19-13/16 (503)	7/8 (22)	47.0 (21)
CAPVU4824ALA	24-13/16 (630)	23-5/16 (592)	7/8 (22)	49.0 (22)
CAPVU6021ALA	31-1/2 (800)	19-13/16 (503)	7/8 (22)	57.0 (26)
CAPVU6024ALA	31-1/16 (789)	23-5/16 (592)	7/8 (22)	557.0 (25)

PERFORMANCE DATA

COOLING CAPACITIES (MBH) - PURON® R-410 REFRIGERANT

CAPV UNIT SIZE	INDOOR COIL AIR		SATURATED TEMPERATURE LEAVING EVAPORATOR °F (°C)														
	CFM	EWB	30 (-1)			35 (2)			40 (4)			45 (7)			50 (10)		
			TC	SHC	BF	TC	SHC	BF	TC	SHC	BF	TC	SHC	BF	TC	SHC	BF
1814	450	72 (22)	32.00	15.70	0.00	29.30	14.30	0.00	26.40	12.80	0.00	23.10	11.30	0.00	19.50	9.70	0.01
		67 (19)	26.80	16.10	0.01	24.10	14.60	0.01	21.10	13.10	0.01	17.80	11.50	0.02	14.20	9.90	0.02
		62 (17)	22.10	16.50	0.02	19.30	14.90	0.02	16.40	13.40	0.02	13.20	11.80	0.02	10.30	10.30	0.05
	600	72 (22)	39.20	19.10	0.00	36.00	17.40	0.00	32.30	15.70	0.00	28.30	13.90	0.02	23.80	12.00	0.02
		67 (19)	32.90	19.90	0.03	29.60	18.20	0.03	25.90	16.30	0.03	21.90	14.40	0.03	17.40	12.50	0.03
		62 (17)	27.20	20.60	0.04	23.80	18.80	0.04	20.20	16.90	0.04	16.30	15.00	0.04	13.20	13.20	0.09
	750	72 (22)	45.10	21.90	0.00	41.40	20.10	0.00	37.20	18.20	0.02	32.60	16.10	0.04	27.40	14.00	0.04
		67 (19)	38.00	23.20	0.05	34.20	21.20	0.05	29.90	19.10	0.05	25.20	17.00	0.05	20.00	14.70	0.06
		62 (17)	31.50	24.20	0.06	27.60	22.10	0.06	23.40	20.00	0.06	19.10	17.90	0.06	15.70	15.70	0.13
2414 2417	600	72 (22)	39.40	19.20	0.00	36.30	17.60	0.00	32.80	15.90	0.00	28.90	14.10	0.00	24.50	12.20	0.01
		67 (19)	33.10	20.00	0.01	29.90	18.20	0.01	26.30	16.40	0.01	22.40	14.50	0.02	17.90	12.60	0.02
		62 (17)	27.40	20.50	0.02	24.10	18.70	0.02	20.50	16.90	0.02	16.60	15.00	0.02	13.10	13.10	0.05
	800	72 (22)	47.70	23.20	0.00	44.00	21.40	0.00	39.80	19.40	0.00	35.10	17.30	0.02	29.80	15.10	0.02
		67 (19)	40.30	24.50	0.03	36.40	22.50	0.03	32.10	20.40	0.03	27.30	18.10	0.03	21.80	15.80	0.03
		62 (17)	33.40	25.50	0.04	29.50	23.40	0.04	25.10	21.20	0.04	20.50	19.00	0.04	16.70	16.70	0.09
	1000	72 (22)	54.30	26.40	0.00	50.20	24.40	0.00	45.40	22.30	0.02	40.10	20.00	0.04	34.00	17.50	0.04
		67 (19)	46.00	28.20	0.05	41.70	26.10	0.05	36.80	23.70	0.05	31.20	21.20	0.05	25.00	18.60	0.05
		62 (17)	38.30	29.80	0.05	33.80	27.50	0.06	28.90	25.10	0.06	23.80	22.60	0.06	19.90	19.90	0.14
3014 3017	750	72 (22)	49.10	24.00	0.00	45.00	21.90	0.00	40.50	19.70	0.00	35.50	17.40	0.00	30.00	15.00	0.01
		67 (19)	41.20	24.80	0.01	37.00	22.50	0.02	32.40	20.20	0.02	27.40	17.80	0.02	21.90	15.30	0.02
		62 (17)	34.00	25.40	0.02	29.70	23.00	0.02	25.10	20.60	0.02	20.30	18.30	0.02	16.00	16.00	0.06
	1000	72 (22)	59.90	29.10	0.00	55.00	26.70	0.00	49.50	24.10	0.00	43.30	21.30	0.02	36.50	18.40	0.03
		67 (19)	50.40	30.50	0.03	45.30	27.90	0.04	39.70	25.10	0.04	33.50	22.20	0.04	26.70	19.20	0.04
		62 (17)	41.70	31.60	0.04	36.50	28.80	0.04	30.90	26.00	0.04	25.00	23.10	0.05	20.30	20.30	0.10
	1250	72 (22)	68.80	33.40	0.00	63.20	30.70	0.00	56.80	27.80	0.03	49.70	24.70	0.04	41.90	21.40	0.05
		67 (19)	58.00	35.40	0.06	52.20	32.40	0.06	45.70	29.30	0.06	38.50	26.00	0.06	30.60	22.60	0.07
		62 (17)	48.00	37.00	0.07	42.10	33.90	0.07	35.70	30.70	0.07	29.20	27.50	0.07	24.20	24.20	0.14
3614 3617 3621	900	72 (22)	60.30	29.40	0.00	55.40	26.90	0.00	49.90	24.30	0.00	43.80	21.50	0.01	37.00	18.60	0.02
		67 (19)	50.70	30.60	0.02	45.70	27.90	0.03	40.10	25.10	0.03	33.90	22.20	0.03	27.00	19.20	0.03
		62 (17)	41.90	31.50	0.03	36.70	28.70	0.03	31.10	25.80	0.03	25.10	22.90	0.04	20.00	20.00	0.08
	1200	72 (22)	72.40	35.10	0.00	66.50	32.30	0.00	59.90	29.30	0.02	52.50	26.00	0.04	44.30	22.60	0.05
		67 (19)	61.00	37.10	0.05	55.00	34.00	0.06	48.20	30.70	0.06	40.70	27.30	0.06	32.40	23.70	0.06
		62 (17)	50.50	38.80	0.06	44.30	35.50	0.06	37.60	32.10	0.06	30.60	28.70	0.07	25.20	25.20	0.13
	1500	72 (22)	82.20	39.90	0.00	75.60	36.90	0.02	68.10	33.50	0.05	59.70	29.90	0.07	50.40	26.10	0.08
		67 (19)	69.40	42.70	0.08	62.60	39.30	0.08	55.00	35.70	0.08	46.40	31.80	0.09	37.00	27.80	0.09
		62 (17)	57.70	45.10	0.09	50.70	41.40	0.09	43.10	37.70	0.09	35.50	34.00	0.10	29.80	29.80	0.18
4221 4224	1050	72 (22)	75.00	36.40	0.00	69.30	33.70	0.00	62.60	30.60	0.01	55.10	27.40	0.02	46.90	24.00	0.03
		67 (19)	63.30	38.80	0.03	57.20	35.70	0.03	50.50	32.50	0.03	42.90	29.00	0.04	33.50	25.00	0.04
		62 (17)	52.60	40.80	0.04	46.40	37.60	0.04	39.50	34.10	0.04	32.00	30.40	0.05	26.40	26.40	0.14
	1400	72 (22)	87.10	42.50	0.00	80.60	39.50	0.03	73.00	36.20	0.04	64.20	32.50	0.05	54.40	28.60	0.06
		67 (19)	73.80	46.10	0.06	66.90	42.70	0.06	58.90	39.00	0.07	50.10	35.20	0.07	40.00	30.90	0.07
		62 (17)	61.40	49.30	0.07	54.40	45.70	0.07	46.90	42.10	0.07	39.00	38.10	0.09	33.00	33.00	0.19
	1750	72 (22)	96.50	47.40	0.05	89.50	44.30	0.07	81.30	40.80	0.07	71.70	36.90	0.08	60.50	32.60	0.09
		67 (19)	82.10	52.30	0.09	74.60	48.80	0.09	65.90	44.90	0.09	55.90	40.60	0.09	45.10	36.20	0.10
		62 (17)	68.60	56.80	0.10	61.00	53.10	0.10	52.90	49.10	0.10	44.90	44.90	0.12	38.70	38.70	0.24
4817 4821 4824	1200	72 (22)	83.40	40.60	0.00	76.70	37.20	0.00	69.30	33.60	0.00	60.90	29.80	0.01	51.70	25.80	0.02
		67 (19)	70.10	42.30	0.02	63.20	38.60	0.03	55.60	34.80	0.03	47.20	30.80	0.04	37.80	26.60	0.04
		62 (17)	57.90	43.50	0.04	50.90	39.70	0.04	43.20	35.70	0.04	34.90	31.70	0.04	27.70	27.70	0.08
	1600	72 (22)	100.80	48.90	0.00	92.80	45.10	0.00	83.80	40.90	0.01	73.80	36.40	0.04	62.50	31.70	0.05
		67 (19)	84.90	51.70	0.05	76.70	47.40	0.06	67.50	42.90	0.06	57.30	38.10	0.06	45.90	33.20	0.06
		62 (17)	70.40	53.90	0.06	62.00	49.30	0.06	52.60	44.60	0.07	42.80	39.90	0.07	35.00	35.00	0.13
	2000	72 (22)	114.70	55.70	0.00	105.70	51.60	0.00	95.60	47.00	0.05	84.20	42.00	0.07	71.40	36.70	0.08
		67 (19)	97.00	59.50	0.08	87.70	54.90	0.08	77.30	49.90	0.09	65.60	44.60	0.09	52.50	39.00	0.09
		62 (17)	80.60	62.80	0.09	71.00	57.70	0.09	60.50	52.50	0.09	49.60	47.20	0.10	41.30	41.30	0.18
6021 6024	1600	72 (22)	109.20	53.40	0.00	100.00	48.60	0.00	89.90	43.60	0.00	78.60	38.50	0.00	66.40	33.10	0.02
		67 (19)	91.50	55.10	0.02	82.10	50.00	0.03	71.90	44.80	0.03	60.70	39.40	0.03	48.40	34.00	0.03
		62 (17)	75.40	56.30	0.03	65.90	51.00	0.03	55.60	45.70	0.04	44.80	40.40	0.04	35.30	35.30	0.07
	2000	72 (22)	128.00	62.20	0.00	117.20	56.90	0.00	105.20	51.20	0.00	92.00	45.20	0.02	77.50	39.10	0.04
		67 (19)	107.40	64.90	0.04	96.40	59.10	0.04	84.30	53.00	0.05	71.10	46.80	0.05	56.60	40.50	0.05
		62 (17)	88.60	66.90	0.05	77.50	60.80	0.05	65.30	54.60	0.05	52.70	48.50	0.06	42.40	42.40	0.11
	2400	72 (22)	144.20	70.00	0.00	132.10	64.20	0.00	118.50	57.90	0.01	103.60	51.20	0.04	87.20	44.30	0.06
		67 (19)	121.20	73.60	0.06	108.80	67.20	0.06	95.10	60.40	0.07	80.10	53.50	0.07	63.70	46.40	0.07
		62 (17)	100.10	76.40	0.07	87.50	69.60	0.07	73.80	62.70	0.07	59.80	56.00	0.08	48.90	48.90	0.14

Legend:

NOTES:

1. Contact manufacturer for cooling capacities at conditions other than shown in table.

2. Formulas:

$$\text{Leaving db} = \text{entering db} - \frac{\text{sensible heat cap.}}{1.09 \times \text{CFM}}$$

Leaving wb = wb corresponding to enthalpy of air leaving coil (h_{LWB})

$$h_{LWB} = h_{EWB} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{CFM}}$$

Where h_{EWB} = enthalpy of air entering coil

3. SHC is based on 80°F (27°C) db temperature of air entering the evaporator coil.

Below 80°F (27°C) db, subtract (Correction Factor x CFM) from SHC.

Above 80°F (27°C) db, add (Correction Factor x CFM) to SHC.

4. Direct interpolation is permissible. Do not extrapolate.

5. Fan motor heat has not been deducted.

6. All data points are based on 10°F (-12°C) superheat leaving coil and use of thermostatic expansion valve (TXV) device.

7. All units have sweat suction-tube connection and a liquid-tube connection. For 1-1/8-in. system suction tube, 3/4 x 1-1/8-in. suction tube connection adapter is available as accessory.

8. The CAPVU coils can be used in any properly designed system using Puron® refrigerant.

9. Before using maximum cfm shown in table, check coil static pressure drop to ensure system blower can provide necessary static pressure needed for coil and duct systems.

10. Bypass Factor = 0 indicates no psychometric solution. Use bypass factor of next lower EWB for approximation.

BYPASS FACTOR	ENTERING AIR DRY BULB TEMPERATURE °F (°C)					
	79 (26)	78 (26)	77 (25)	76 (24)	75 (24)	Under 75 (24)
	81 (27)	82 (28)	83 (28)	84 (29)	84 (29)	Above 85 (29)
	Correction Factor					
0.10	0.98	1.96	2.94	3.92	4.91	Use formula shown below
0.20	0.87	1.74	2.62	3.49	4.36	
0.30	0.76	1.53	2.29	3.05	3.82	

Interpolation is permissible.

Correction Factor = $1.09 \times (1 - \text{BF}) \times (\text{db} - 80)$

ACCESSORIES

EMPTY COIL CASING ACCESSORY FOR UNCASSED A-COIL

ACCESSORY PART NUMBER	CAPVU NOMINAL COIL SIZES	DIMENSIONS in. (mm.)		
		H	W	D
KCAKC2212ECC	1814, 2414, 3014, 3614	25-7/8 (657)	14-3/16 (360)	20-5/8 (524)
KCAKC2306ECC	2417, 3017, 3617, 4817	33-7/8 (860)	17-1/2 (445)	20-5/8 (524)
KCAKC2404ECC	3621, 4221, 4821, 6021	33-7/8 (860)	21 (533)	20-5/8 (524)
KCAKC2504ECC	4224, 4824, 6024	33-7/8 (860)	24-1/2 (622)	20-5/8 (524)

COIL STATIC PRESSURE DROP (in. w.c.) PURON® R-410A REFRIGERANT

UNIT SIZE	STANDARD CFM																			
	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	
1814	Dry																			
	0.079	0.111	0.145	0.186	0.232															
	Wet																			
2414	0.083	0.116	0.151	0.196	0.243															
	Dry																			
	0.065	0.091	0.120	0.154	0.194	0.237	0.284													
2417	Wet																			
	0.066	0.094	0.124	0.161	0.203	0.250	0.301													
	Dry																			
3014	0.056	0.076	0.097	0.123	0.151	0.182	0.215													
	Wet																			
	0.060	0.082	0.105	0.132	0.163	0.195	0.231													
3017	Dry																			
	0.054	0.077	0.102	0.133	0.167	0.206	0.248	0.296	0.347											
	Wet																			
3614	0.059	0.084	0.111	0.142	0.181	0.223	0.269	0.319	0.375											
	Dry																			
	0.043	0.059	0.077	0.096	0.119	0.144	0.171	0.201	0.232											
3617	Wet																			
	0.046	0.063	0.083	0.105	0.130	0.157	0.186	0.219	0.252											
	Dry																			
3621	0.047	0.069	0.093	0.119	0.151	0.187	0.227	0.270	0.317	0.362	0.418									
	Wet																			
	0.053	0.076	0.101	0.129	0.162	0.200	0.241	0.286	0.335	0.388	0.447									
4221	Dry																			
	0.023	0.036	0.052	0.069	0.089	0.110	0.135	0.160	0.189	0.219	0.251									
	Wet																			
4224	0.042	0.058	0.076	0.095	0.117	0.142	0.169	0.198	0.231	0.265	0.299									
	Dry																			
	0.026	0.037	0.050	0.062	0.077	0.092	0.109	0.128	0.148	0.170	0.193									
4817	Wet																			
	0.029	0.040	0.053	0.065	0.082	0.099	0.119	0.138	0.160	0.185	0.209									
	Dry																			
4821			0.044	0.056	0.068	0.082	0.099	0.119	0.138	0.161	0.183	0.205	0.233							
	Wet																			
			0.058	0.073	0.089	0.106	0.125	0.143	0.165	0.189	0.213	0.239	0.268							
4824	Dry																			
			0.039	0.049	0.060	0.072	0.085	0.099	0.114	0.130	0.146	0.164	0.182							
	Wet																			
6021			0.054	0.066	0.079	0.092	0.103	0.125	0.142	0.161	0.182	0.202	0.222							
	Dry																			
			0.065	0.082	0.105	0.128	0.156	0.185	0.216	0.253	0.290	0.331	0.372	0.417	0.464					
6024	Wet																			
			0.066	0.084	0.106	0.130	0.159	0.188	0.222	0.256	0.296	0.337	0.379	0.425	0.476					
	Dry																			
6021			0.055	0.072	0.089	0.107	0.128	0.150	0.175	0.199	0.228	0.257	0.288	0.321	0.356					
	Wet																			
			0.058	0.075	0.094	0.115	0.136	0.161	0.188	0.217	0.247	0.279	0.313	0.347	0.386					
6024	Dry																			
			0.044	0.056	0.069	0.084	0.100	0.118	0.137	0.159	0.180	0.198	0.222	0.247	0.275					
	Wet																			
6021			0.052	0.065	0.080	0.095	0.112	0.131	0.150	0.171	0.193	0.214	0.241	0.270	0.296					
	Dry																			
					0.075	0.093	0.112	0.133	0.157	0.181	0.206	0.234	0.264	0.294	0.326	0.360	0.396	0.432	0.478	
6024	Wet																			
					0.077	0.095	0.115	0.137	0.159	0.184	0.209	0.238	0.268	0.300	0.334	0.370	0.407	0.444	0.488	
	Dry																			
6024					0.073	0.083	0.095	0.107	0.120	0.136	0.152	0.169	0.184	0.203	0.217	0.238	0.260	0.283	0.307	
	Wet																			
					0.076	0.086	0.098	0.110	0.124	0.140	0.157	0.175	0.193	0.215	0.238	0.261	0.286	0.314	0.342	