



Solkane[®] 407C

Refrigerant



Solvay
Fluor und Derivate



Product Description

Substitute for R 22

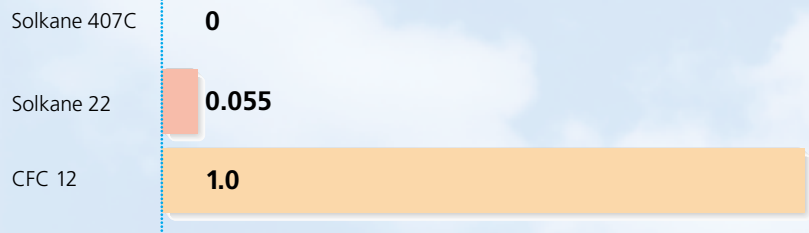
- Refrigerant blend containing R 32, R 125 and R 134a (23/25/52 % by weight)
- Temperature glide approx. 7 K
- Refrigerant must be charged from liquid phase
- Physical and thermodynamic properties comparable to R 22
- Non-flammable and safe to use
- Commercially available
- Miscible with polyolester oils
- Environmentally acceptable

Applications

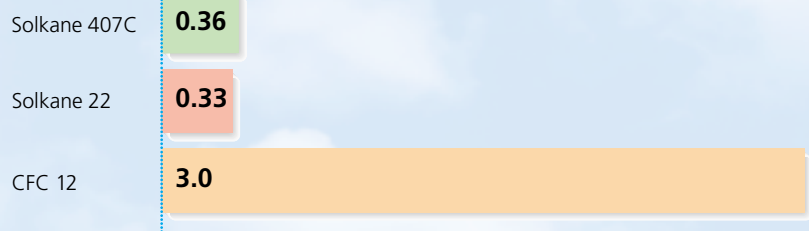
- Air-conditioning units
- Heat pumps
- Industrial and commercial refrigeration*
- Retrofit of existing R 22 installations with Solkane 407C is possible*
*not for systems with flooded evaporation

Environmental Aspects

ODP Ozone Depletion Potential

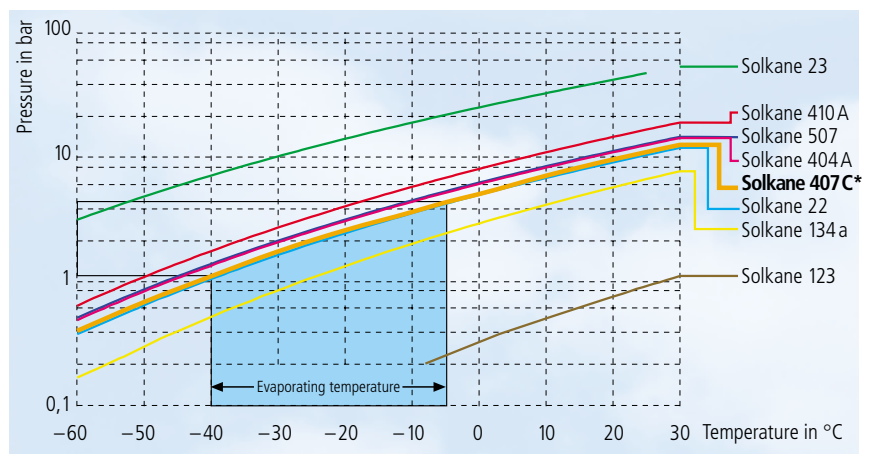
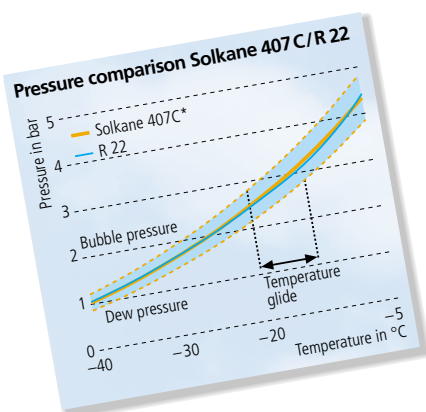


HGWP* Halocarbon Global Warming Potential



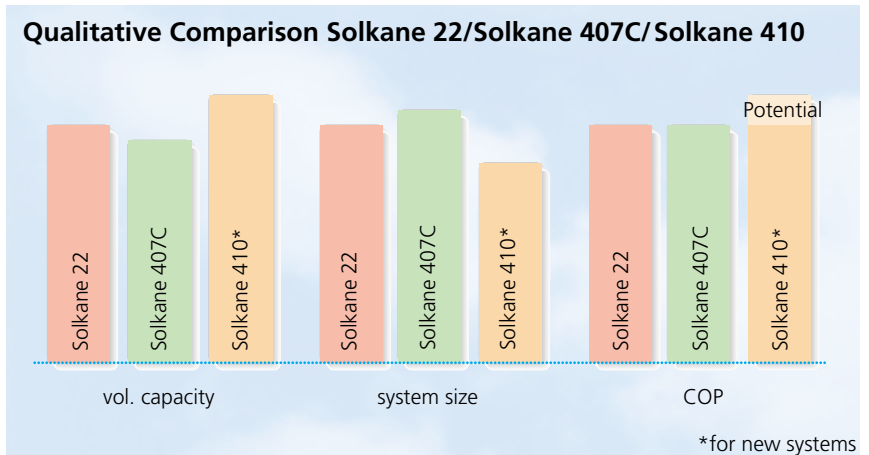
*The HGWP is related to R 11 for an infinite time horizon.

Range of Application



*Average pressure

Performance



Physical Properties

Chemical Name	Difluoromethane/ Pentafluoroethane/ 1,1,1,2-Tetrafluoroethane	
Chemical Formula	CH ₂ F ₂ /CHF ₂ -CF ₃ / CF ₃ -CH ₂ F	
Molecular Weight	kg/kmol	86.4
Boiling Point at 1.013 bar	°C	-43.8/-36.7
Bubble point temperature/Dew point temperature		
Critical Temperature ¹⁾	°C	86.4
Critical Pressure ¹⁾	bar	46.2
Critical Density ¹⁾	kg/m ³	510
Critical Volume ¹⁾	m ³ /kg	1.96 x 10 ⁻³
Density Liquid ²⁾	kg/m ³	1135
Density Saturated Vapour ²⁾	kg/m ³	43.77
Heat of Vaporization ²⁾	kJ/kg	183.2
Specific Heat Capacity ²⁾ (Liquid)	kJ/kgK	1.520
Specific Heat Capacity ³⁾ (Vapour)	kJ/kgK	0.839
¹⁾ Pseudo-critical properties		
²⁾ at 25 °C		
³⁾ at 25 °C and 1.013 bar		

Technical Service

For further information please contact our technical specialists:

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Comments:

The recommendations for the use of Solkane refrigerants are given to the best of our knowledge and information and are not binding.

All users are themselves responsible for the observance of the relevant legal regulations and existing copyright.

Under no circumstances do we accept liability for damages which arise from the use of Solkane refrigerants and such products, which are manufactured with Solkane refrigerants.

Thermodynamic properties of saturated Solkane® 407C

Release 1.03

t °C	p' bar	p'' bar	rho' kg/dm³	rho'' kg/m³	v' dm³/kg	v'' dm³/kg	h' kJ/kg	h'' kJ/kg	r kJ/kg	s' kJ/kgK	s'' kJ/kgK	t °C	p' bar	p'' bar	rho' kg/dm³	rho'' kg/m³	v' dm³/kg	v'' dm³/kg	h' kJ/kg	h'' kJ/kg	r kJ/kg	s' kJ/kgK	s'' kJ/kgK
-50	0.75	0.51	1.402	2.40	0.713	416.20	132.74	380.81	248.07	0.7305	1.8614	20	10.36	8.80	1.157	37.60	0.864	26.60	228.88	417.68	188.81	1.1009	1.7517
-49	0.79	0.53	1.399	2.53	0.715	394.95	134.02	381.42	247.41	0.7363	1.8589	21	10.65	9.06	1.153	38.77	0.867	25.80	230.36	418.06	187.70	1.1059	1.7506
-48	0.83	0.56	1.396	2.67	0.716	375.01	135.29	382.04	246.74	0.7420	1.8564	22	10.95	9.34	1.149	39.97	0.871	25.02	231.85	418.44	186.59	1.1109	1.7495
-47	0.87	0.60	1.393	2.81	0.718	356.27	136.57	382.65	246.08	0.7477	1.8540	23	11.25	9.62	1.144	41.20	0.874	24.27	233.34	418.80	185.46	1.1159	1.7484
-46	0.91	0.63	1.391	2.95	0.719	338.65	137.85	383.26	245.41	0.7534	1.8516	24	11.56	9.90	1.140	42.47	0.877	23.55	234.84	419.16	184.32	1.1210	1.7473
-45	0.96	0.66	1.388	3.11	0.721	322.05	139.13	383.87	244.74	0.7591	1.8493	25	11.88	10.19	1.135	43.77	0.881	22.85	236.35	419.52	183.17	1.1260	1.7463
-44	1.00	0.70	1.385	3.26	0.722	306.43	140.42	384.48	244.06	0.7647	1.8470	26	12.20	10.49	1.131	45.10	0.884	22.17	237.86	419.86	182.01	1.1310	1.7452
-43	1.05	0.74	1.382	3.43	0.724	291.72	141.71	385.08	243.38	0.7704	1.8447	27	12.53	10.79	1.126	46.48	0.888	21.52	239.37	420.20	180.83	1.1360	1.7441
-42	1.10	0.78	1.379	3.60	0.725	277.84	143.00	385.69	242.69	0.7760	1.8425	28	12.87	11.10	1.122	47.88	0.891	20.88	240.89	420.53	179.65	1.1410	1.7430
-41	1.16	0.82	1.376	3.78	0.727	264.76	144.29	386.29	242.00	0.7816	1.8403	29	13.21	11.42	1.117	49.33	0.895	20.27	242.41	420.86	178.45	1.1460	1.7419
-40	1.21	0.86	1.373	3.96	0.729	252.41	145.58	386.89	241.31	0.7872	1.8381	30	13.56	11.75	1.113	50.82	0.899	19.68	243.95	421.18	177.23	1.1511	1.7408
-39	1.27	0.91	1.370	4.15	0.730	240.75	146.88	387.49	240.61	0.7928	1.8360	31	13.92	12.08	1.108	52.34	0.903	19.11	245.48	421.49	176.01	1.1561	1.7397
-38	1.33	0.95	1.366	4.35	0.732	229.73	148.18	388.09	239.91	0.7984	1.8339	32	14.28	12.42	1.103	53.91	0.906	18.55	247.03	421.79	174.76	1.1611	1.7386
-37	1.39	1.00	1.363	4.56	0.733	219.32	149.49	388.69	239.20	0.8039	1.8319	33	14.65	12.76	1.099	55.52	0.910	18.01	248.58	422.09	173.51	1.1662	1.7375
-36	1.45	1.05	1.360	4.77	0.735	209.47	150.80	389.28	238.49	0.8094	1.8299	34	15.03	13.11	1.094	57.17	0.914	17.49	250.14	422.37	172.24	1.1712	1.7364
-35	1.52	1.10	1.357	5.00	0.737	200.15	152.11	389.88	237.77	0.8150	1.8279	35	15.41	13.48	1.089	58.87	0.918	16.99	251.70	422.65	170.95	1.1763	1.7353
-34	1.58	1.16	1.354	5.23	0.739	191.33	153.42	390.47	237.05	0.8205	1.8260	36	15.80	13.84	1.084	60.62	0.922	16.50	253.28	422.92	169.65	1.1813	1.7342
-33	1.66	1.21	1.351	5.47	0.740	182.97	154.74	391.06	236.32	0.8260	1.8241	37	16.20	14.22	1.079	62.41	0.927	16.02	254.86	423.18	168.33	1.1864	1.7331
-32	1.73	1.27	1.348	5.71	0.742	175.05	156.06	391.64	235.59	0.8314	1.8222	38	16.61	14.60	1.074	64.26	0.931	15.56	256.45	423.44	166.99	1.1915	1.7319
-31	1.80	1.33	1.345	5.97	0.744	167.54	157.38	392.23	234.85	0.8369	1.8203	39	17.02	14.99	1.069	66.16	0.935	15.12	258.05	423.68	165.63	1.1965	1.7308
-30	1.88	1.39	1.341	6.23	0.745	160.42	158.71	392.81	234.10	0.8424	1.8185	40	17.45	15.39	1.064	68.11	0.940	14.68	259.65	423.91	164.26	1.2016	1.7296
-29	1.96	1.46	1.338	6.51	0.747	153.66	160.04	393.39	233.36	0.8478	1.8167	41	17.88	15.80	1.059	70.11	0.944	14.26	261.27	424.13	162.86	1.2067	1.7285
-28	2.04	1.52	1.335	6.79	0.749	147.24	161.37	393.97	232.60	0.8532	1.8150	42	18.31	16.21	1.054	72.18	0.949	13.85	262.90	424.34	161.44	1.2118	1.7273
-27	2.13	1.59	1.332	7.09	0.751	141.14	162.71	394.55	231.84	0.8586	1.8132	43	18.76	16.64	1.049	74.30	0.954	13.46	264.54	424.54	160.01	1.2169	1.7261
-26	2.22	1.67	1.329	7.39	0.753	135.35	164.05	395.12	231.08	0.8640	1.8115	44	19.21	17.07	1.043	76.49	0.958	13.07	266.19	424.73	158.55	1.2221	1.7249
-25	2.31	1.74	1.325	7.70	0.755	129.84	165.39	395.69	230.30	0.8694	1.8098	45	19.67	17.51	1.038	78.74	0.963	12.70	267.84	424.91	157.07	1.2272	1.7236
-24	2.40	1.82	1.322	8.03	0.756	124.60	166.73	396.26	229.53	0.8748	1.8082	46	20.14	17.96	1.033	81.06	0.968	12.34	269.52	425.08	155.56	1.2323	1.7224
-23	2.50	1.90	1.319	8.36	0.758	119.61	168.08	396.83	228.74	0.8801	1.8066	47	20.62	18.42	1.027	83.45	0.973	11.98	271.20	425.23	154.03	1.2375	1.7211
-22	2.60	1.98	1.315	8.71	0.760	114.86	169.43	397.39	227.96	0.8855	1.8049	48	21.11	18.88	1.022	85.92	0.979	11.64	272.90	425.37	152.47	1.2427	1.7198
-21	2.70	2.06	1.312	9.06	0.762	110.34	170.79	397.95	227.16	0.8908	1.8034	49	21.60	19.36	1.016	88.45	0.984	11.31	274.61	425.49	150.89	1.2478	1.7185
-20	2.81	2.15	1.309	9.43	0.764	106.03	172.15	398.51	226.36	0.8961	1.8018	50	22.10	19.85	1.011	91.07	0.990	10.98	276.33	425.60	149.28	1.2530	1.7172
-19	2.92	2.24	1.305	9.81	0.766	101.92	173.51	399.06	225.56	0.9014	1.8003	51	22.62	20.34	1.005	93.78	0.995	10.66	278.07	425.70	147.63	1.2582	1.7158
-18	3.03	2.34	1.302	10.20	0.768	98.00	174.87	399.61	224.74	0.9067	1.7987	52	23.14	20.85	0.999	96.57	1.001	10.36	279.82	425.78	145.96	1.2635	1.7145
-17	3.14	2.43	1.298	10.61	0.770	94.26	176.24	400.16	223.92	0.9120	1.7972	53	23.67	21.36	0.993	99.45	1.007	10.06	281.59	425.84	144.26	1.2687	1.7130
-16	3.26	2.53	1.295	11.03	0.772	90.70	177.61	400.71	223.10	0.9172	1.7958	54	24.20	21.88	0.987	102.43	1.013	9.76	283.37	425.89	142.52	1.2740	1.7116
-15	3.39	2.64	1.292	11.46	0.774	87.29	178.98	401.25	222.27	0.9225	1.7943	55	24.75	22.42	0.981	105.51	1.019	9.48	285.17	425.91	140.74	1.2792	1.7101
-14	3.51	2.74	1.288	11.90	0.776	84.04	180.36	401.79	221.43	0.9277	1.7929	56	25.31	22.96	0.975	108.69	1.026	9.20	286.99	425.92	138.93	1.2845	1.7086
-13	3.64	2.85	1.285	12.36	0.778	80.93	181.74	402.33	220.59	0.9329	1.7914	57	25.87	23.52	0.969	111.99	1.032	8.93	288.82	425.90	137.08	1.2898	1.7070
-12	3.77	2.97	1.281	12.83	0.781	77.96	183.12	402.86	219.74	0.9382	1.7900	58	26.45	24.08	0.963	115.40	1.039	8.67	290.68	425.87	135.19	1.2951	1.7054
-11	3.91	3.08	1.278	13.31	0.783	75.12	184.50	403.39	218.89	0.9434	1.7887	59	27.03	24.66	0.956	118.94	1.046	8.41	292.55	425.81	133.26	1.3005	1.7037
-10	4.05	3.20	1.274	13.81	0.785	72.40	185.89	403.91	218.02	0.9486	1.7873	60	27.63	25.24	0.950	122.61	1.053	8.16	294.45	425.72	131.28	1.3058	1.7020
-9	4.20	3.33	1.271	14.33	0.787	69.80	187.28	404.43	217.15	0.9538	1.7859	61	28.23	25.84	0.943	126.42	1.061	7.91	296.36	425.61	129.25	1.3112	1.7002
-8	4.34	3.45	1.267	14.86	0.789	67.31	188.67	404.95	216.28	0.9589	1.7846	62	28.85	26.45	0.936	130.38	1.068	7.67	298.30	425.48	127.18	1.3166	1.6984
-7	4.50	3.58	1.263	15.40	0.792	64.93	190.07	405.47	215.40	0.9641	1.7833	63	29.47	27.07	0.929	134.49	1.076	7.44	300.26	425.31	125.05	1.3220	1.6965
-6	4.65	3.72	1.260	15.96	0.794	62.65	191.47	405.98	214.51	0.9692	1.7820	64	30.10	27.71	0.922	138.78	1.084	7.21	302.24	425.11	122.87	1.3275	1.6945
-5	4.81	3.86	1.256	16.54	0.796	60.46	192.87	406.49	213.62	0.9744	1.7807	65	30.75	28.35	0.915	143.24	1.093	6.98	304.24	424.88	120.63	1.3330	1.6925
-4	4.98	4.00	1.252	17.13	0.798	58.36	194.28	406.99	212.71	0.9795	1.7794	66	31.40	29.01	0.908	147.89	1.102	6.76	306.27	424.61	118.34	1.3384	1.6904
-3	5.15	4.15	1.249	17.75	0.801	56.35	195.68	407.49	211.81	0.9847	1.7782	67	32.07	29.68	0.900	152.75	1.111	6.55	308.33	424.30	115.97	1.3440	1.6882
-2	5.32																						