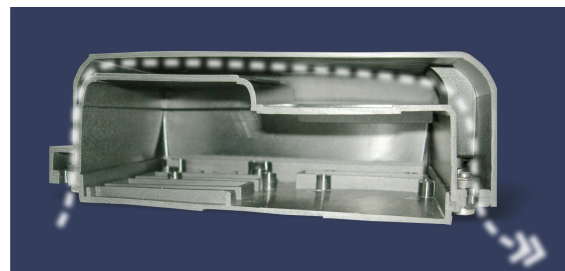


BlueTraker[®] family of products: Strikes back against the harshest chill factor with Double shell housing!

Type: Deployment Questions

Date: April 2008

With totally robust design your new BlueTraker[®] tracking device mounts externally onto your vessel and resists all the weather conditions, mechanical bumps or electrical interference which can occur throughout years of operation. The BlueTraker[®] housing consists of a **double-shell construction**. Each shell is separated by a layer of air which is not sealed to the external environment. Air can freely and slowly circulate between the two shells and the device can resist even the **harshest chill factor** when the vessel is moving at high speed through the coldest of environments.



Wind chill is the apparent temperature felt on exposed skin, which is a function of the air temperature and wind speed. The wind chill temperature (often popularly called the **wind chill factor**) is always lower than the air temperature, except at higher temperatures where wind chill is considered less important. In cases where the apparent temperature is higher than the air temperature, the heat index is used instead.

Read more on: http://en.wikipedia.org/wiki/Wind_chill

Explanation

There is a thermal boundary layer surrounding the skin which may be several millimetres thick. This boundary layer acts as an insulator. When it is cold and the wind is blowing, the air feels colder than it does when it is calm because the wind blows away the boundary layer. In a perfect calm, if free convection could be suppressed (as it is in microgravity), the boundary layer would be infinitely thick. Add a wind, and the only still air that remains would be the air in the immediate vicinity of some surface, like the skin. The stronger the wind, the thinner the layer. Because the outer layers of still air are blown off more easily than the ones closer to the skin, when it is nearly calm, a small increase in wind speed causes a much greater thinning of the boundary layer thickness than the same increase in wind speed when the wind is already strong.

		Temperature (°F)																		
		Calm	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
Wind (mph)	5	36	31	25	19	13	7	1	-5	-11	-16	-22	-28	-34	-40	-46	-52	-57	-63	-63
	10	34	27	21	15	9	3	-4	-10	-16	-22	-28	-35	-41	-47	-53	-59	-66	-72	-72
	15	32	25	19	13	6	0	-7	-13	-19	-26	-32	-39	-45	-51	-58	-64	-71	-77	-77
	20	30	24	17	11	4	-2	-9	-15	-22	-29	-35	-42	-48	-55	-61	-68	-74	-81	-81
	25	29	23	16	9	3	-4	-11	-17	-24	-31	-37	-44	-51	-58	-64	-71	-78	-84	-84
	30	28	22	15	8	1	-5	-12	-19	-26	-33	-39	-46	-53	-60	-67	-73	-80	-87	-87
	35	28	21	14	7	0	-7	-14	-21	-27	-34	-41	-48	-55	-62	-69	-76	-82	-89	-89
	40	27	20	13	6	-1	-8	-15	-22	-29	-36	-43	-50	-57	-64	-71	-78	-84	-91	-91
	45	26	19	12	5	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79	-86	-93	-93
	50	26	19	12	4	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81	-88	-95	-95
55	25	18	11	4	-3	-11	-18	-25	-32	-39	-46	-54	-61	-68	-75	-82	-89	-97	-97	
60	25	17	10	3	-4	-11	-19	-26	-33	-40	-48	-55	-62	-69	-76	-84	-91	-98	-98	

Frostbite Times: 30 minutes (light blue), 10 minutes (medium blue), 5 minutes (dark blue)

Wind Chill (°F) = $35.74 + 0.6215T - 35.75(V^{0.16}) + 0.4275T(V^{0.16})$
Where, T= Air Temperature (°F) V= Wind Speed (mph)

Effective 11/01/01

BlueTraker[®] housing unit is fully waterproof. The construction provides exceptional ingress protection up to a maximum of **IP68 and IP69K protection grade**. High UV radiation and temperatures from -25°C to +55°C will have no impact on BlueTraker[®] device operation.

