

1. CARE INSTRUCTIONS FOR SANTI UNDERSUIT WITH [Thinsulate™](#) INSULATION

If cared for properly, your Undersuit with Thinsulate Insulation will provide years of service. Please read the following instructions carefully.

If directions are not followed, break down of the insulation can occur.

Special Note: You can wash your SANTI Undersuit as frequently as you need. The insulation used to produce our Undersuits does not change during washing and the way we made our Undersuits gives you possibility of multiple washing even in industrial conditions. Repeated washing is even recommended to restore excellent insulating qualities of [Thinsulate™](#).

We recommend wearing thermal underwear beneath your Undersuit. This liner will absorb odors and perspiration from the body. Avoid using cotton underwear because it saturates with sweat easily and conducts heat away from the body when wet. Thermal underwear can also be washed as often as it is necessary.

LAUNDERING RECOMMENDATIONS

Machine-wash in cold water at the temp. of 40 deg. C. Hand washing is not recommended since it is difficult to work the water into and through the Undersuit to flush away dirt and it is also difficult to remove the water by hand without damaging the insulation. The Undersuit should be washed separately to avoid crowding in the machine and to maximize the cleaning action. Add detergent for the first washing, then wash the Undersuit again - this time without any detergent.

Warning: **Spinning is not recommended.**

To dry, lay the Undersuit flat or tumble dry using a delicate cycle (very low temperature) or air only. For the first drying cycle, turn the Undersuit inside out. Repeat, if the lining is still wet, but for the second drying cycle - turn the Undersuit right side out.

Warning: Do not hang to dry!! The weight of the water in the garment will cause the [Thinsulate™](#) Insulation liner to separate in shoulders area. When you need to do some minor cleaning of the Undersuit that has not been washed before, please follow these recommendations:

- * Salt crystals - wash in clear water without detergent.
- * Disinfect - it may be required after long-term diving (saturation diving) or to remove mold if the Undersuit was stored wet in a dark place. Add some liquid non-chlorine bleach (follow bleach label instructions) at the beginning of the wash cycle. DO NOT add detergent.
- * Odor - if odor is the only problem, wash the Undersuit using one cup of white vinegar then put the Undersuit through one complete wash cycle with water only.
- * If the Undersuit has already been washed using a detergent and you have problems with water absorption, it is probably because all of the soap has not been removed. Putting it through 2-4 complete washing cycles without detergent should restore the insulating properties of the Undersuit.

Warning: **Use of chlorine bleach can cause color change or spotting and may damage the insulating layer.**

2. What is Thinsulate?

[Thinsulate™](#) Insulation is made of micro fibers that are 1/1000th the size of a human hair. In the same space there are 1.000 [Thinsulate™](#) micro fibers or 10 fibers of any other synthetic insulation. This means that effective area of [Thinsulate™](#) micro fibers is 314.000 square millimeters, while the others - only 31.400 square millimeters. This thermal insulation is the most effective one (weight and size to warmth ratio) among all known ones at the moment.

Kinds of [Thinsulate™](#) insulation we use:

B-200, B-400

CS-100, CS-150, CS-200, CS-250

Undersuits with [Thinsulate™](#) CS-100 are recommended for sport and recreation diving rather during summer

CS-200 for deep diving

CS-150 has features of both CS-100 and CS-200 insulations, and that is why it is the most versatile one

CS-250 for extreme diving

THL-1, THL-2, THL-3 also known as [Thinsulate™](#) Lite Loft.

Used by DUI company in 2004. It has the lowest weight to warmth ratio

FX-100 - [Thinsulate™](#) - elastic, so-called Flex.

The main advantage is its elasticity, which gives exceptional elbow room.

FX-100 - recommended for sport and recreation diving rather during summer.

FX-200 - for deep diving.

[Thinsulate™](#) B-200 and B-400 have the best insulation ability and are certified (so-called US Navy approval) and used by US Navy. It is resistant to pressure, so it can be used for commercial and military diving.

Most of the European companies with a top producer C.Bear use [Thinsulate™](#) CS group, while American and Canadian producers use B, FX and THL groups. The kind of Thinsulate? used depends on water temperature, diving time, intensification, diving depth, etc.

[Thinsulate™](#) from the B, C, THL and FX groups are water resistant, because it absorbs less than 1% of its weight in water and even in damp conditions it retains its insulating ability. It is a fully breathable material, giving optimal thermal comfort to a human body.

[Thinsulate™](#) from the CS group should be quilted in widths of 10-25 cm (or 30-45 cm panels) or laminated. In case of quilting the insulation ability decreases by about 30%. You should remember that the more reduced the thickness of the fabric, the more decreased insulating ability. There is no such problem with the B group, but it is recommended to quilt B 400.

Materials used to make the outside layer: Taslan, Suplex, Pertex, Tactel - different kinds of high-class polyester fabrics.

Materials used for linings: different kinds of soft polyester fabrics, Treviva Microtherm, fleece.

[Laundering Recommendations for SANTIUNDERSUITS with Thinsulate™](#)

What is CLO? CLO is the measure of the ability of an insulation to keep you warm. The CLO unit is defined as the amount of clothing required by a resting subject to be comfortable at a room temperature of 21°C (70°F), relative humidity <50% and air movement 20 ft/min¹⁹ If you are familiar with the tog rating system, 1.5 tog = CLO.^{9,16}

3. What are the dimensions for SANTI UNDERSUITS?

MEN'S SANTI Undersuits SIZES							
	XS-46	S-48	M-50	L-52	XL-54	XXL-56	XXXL-58
HEIGHT	160-165	166-171	172-177	178-183	184-189	190-195	190-195
CHEST MEASUREMENT	85-92	93-96	95-100	100-105	106-111	112-117	118-123
WAIST MEASUREMENT	71-76	77-82	83-88	89-94	95-110	111-116	116-121
HIPS MEASUREMENT	85-89	90-94	95-99	100-105	106-111	112-117	118-123
CROTCH TO FLOOR LENGTH	69-71	72-74	75-78	79-82	83-86	87-90	91-94

4. What are the dimensions for underwear?

MEN'S UNDERWEAR SIZES					
	S-48	M-50	L-52	XL-54	XXL-56
HEIGHT	166-171	172-177	178-183	184-189	190-195
CHEST MEASUREMENT	93-96	95-100	100-105	106-111	112-117
WAIST MEASUREMENT	77-82	83-88	89-94	95-110	111-116
HIPS MEASUREMENT	90-94	95-99	100-105	106-111	112-117
LEG LENGTH	72-74	75-78	79-82	83-86	87-90

5. How to choose UNDERSUIT?

Undersuit model suggested	kind of dry diving suit		
	under neoprene	under neoprene skompr	tegumentary
Summer Undersuit			X
Undersuit CDS 40	X	X	X
Undersuit CS 150			X
Undersuit BZ 200		X	X
Undersuit BZ 400			X

Undersuit model suggested for diving suit tegumentary	water temperature		
	0 - 7 ° C	7 - 14 ° C	> 14 ° C
Summer Undersuit			X
Undersuit CDS 40			X
Undersuit CS 150		X	
Undersuit BZ 200		X	
Undersuit BZ 400	X		

Santi.com.pl

SANTI Sp. z o.o.

84-240 Reda PL

ul. Ogrodników 14

tel. +48 58 678 50 10

fax +48 58 678 50 09