

AlphaTec®

EN 14605

Chemical Protective Suits
Instructions for Use
AlphaTec® 66-320 model 146



Ansell

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CONTENTS

1. Safety considerations

- These instructions for use (IFU) are valid only for AlphaTec® 66-320 model 146*
- For attached gloves, see separate IFU
- The suit may only be used by trained personnel who are familiar with the contents of this IFU
- Use the suit only for the purposes specified herein
- Do not use a damaged or incomplete suit, and do not modify the suit
- For repair and maintenance, only use genuine AlphaTec® (TRELLECHEM®) spare parts, or the function may be impaired

1.1 Definitions of signal icons used in the instructions

The following icons are used in this IFU to highlight the user on situations or actions that need special attention not to risk the safety of user, suit or environment.



CAUTION

Indicates a potentially hazardous situation which, if not avoided, could result in physical injury, or damage to product or environment.



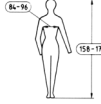





NOTICE

Indicates additional information on how to use the suit.

* Formerly known as TRELLECHEM® Splash 1500.

1.2 Definitions of pictograms used on the suit label

<p>CE 0598</p>	<p>The suit has EU type approval and complies with the EU Regulation 2016/425 on Personal Protective Equipment. Chemical protective clothing is category III according to the regulation and 0598 is the number of the notified body that is responsible for production control. 0598 is SGS Fimko Oy.</p>		<p>This manual has to be read.</p>
	<p>The suit offers chemical protection.</p>		<p>The size of the suit (see chapter 11.1)</p>
	<p>The suit offers protection against infective agents (EN 14126).</p>		
	<p>Hand wash (max. 40 °C / 104 °F).</p>		<p>Do not tumble dry.</p>

2. Description of suit

AlphaTec® 66-320 model 146 is:

- A chemical splash protective coverall with hump, elasticated hood, open legs, with or without attached gloves
- Intended for use on top of a firemen's turnout gear & SCBA, to protect the gear & SCBA against chemical splash
- Re-usable

The following accessories are delivered with every suit:

- Hose drop stop
- Maintenance kit for Bayonet ring system, if fitted
- Extra safety locking pins for the Bayonet ring system, if fitted
- Instructions for use

* The suit will accommodate the major brands of SCBAs, such as Interspiro, Scott, Dräger and MSA. For European users the SCBA must be certified to EN 137.



The suit should be worn with safety boots and a safety helmet.

For more information about materials, components & accessories, see chapter 11.

3. Approvals

3.1 European EC Type approval

AlphaTec® 66-320 model 146 is CE-marked and has EU type approval under the EU Regulation 2016/425 on Personal Protective Equipment and the following European standards:

- EN 14605:2005 + A1:2009, type 4
- EN 14126:2003 infective agent protection
- EN 1149-5:2008 antistatic suit material

AlphaTec® 66-320 model 146 has been tested and approved by EU notified body no 0200; FORCE Certification A/S, Park Allé 345, DK-2605 Brøndby, Denmark.

Link to EU Declarations of Conformity page on Ansell Protective Products' website:



All Declarations of Conformity can also be found at www.ansell.com/regulatory.



The standards according to which the chemical protective suit is approved are marked on the suit inner label.

4. Proper use

4.1 Intended use

The suit protects against chemicals in liquid, aerosol and solid form. It also protects against infectious agents, i.e. bacteria, virus and fungi.



A risk analysis must be performed to determine the protection level and type of protective clothing required before any work involving chemicals is performed. Failure to comply with any of the recommendations given herein may result in serious injury.

4.2 Limitations of use

- Never use the suits near open flames or intense heat
- The suit is not intended for firefighting
- Avoid explosive environments

4.2.1 Antistatic properties

AlphaTec® 66-320 suit material fulfil the EN 1149-5 §4.2.1 (material requirements for protective clothing with antistatic properties).



IMPORTANT: This information is not a claim that the complete garment is antistatic or in any way safe to use with flammable liquids or vapors or explosive atmospheres. The European standard on antistatic properties of clothing, EN 1149, does not specify any method to evaluate a complete garment. If static charges are a concern the suit may be sprayed with water before and during use to minimize the risk of static charges accumulating.

4.3 Temperature of use

- 40°C to +65°C



The risk of heat stress must always be taken into account when working in coveralls. Depending on the type of work and clothing this risk may be considerable even at moderate ambient temperatures.

4.4 Breathing apparatus

For European users the breathing apparatus must be approved to EN 137. This includes a requirement (§ 6.15) for the regulator valve to have a design or position that it cannot be closed inadvertently.

Ansell recommends a breathing apparatus with a regulator valve that is designed in a way that an accidental turning of the valve alone is not sufficient to turn off the air. However, if the breathing apparatus to be used is equipped with a valve where fulfilment of § 6.15 has been achieved only by need of several full turns of the valve to close it, then the wearer should practice reaching the valve while wearing the suit.

5. Pre-use

Before use, make sure:

- The suit is undamaged (see chapter 9)
- The suit, gloves and boots have the correct size (see chapter 11.1)
- To wear undergarments suited for the situation, e.g. station wear or fire turn-out gear.
If cold weather or risk of contact with cold chemicals, wear insulating underwear.



Never use a suit which is damaged.

5.1 Donning

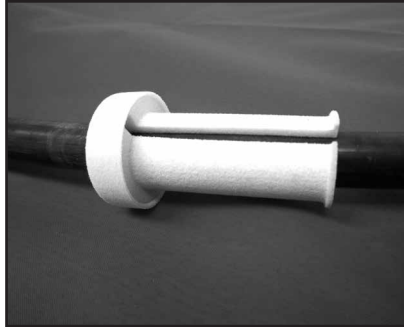


Always have an assistant to help you while donning. This person should make sure the suit is properly fitted and that all zippers, drawstrings and flaps are correctly positioned, closed and pulled tight so they protect and prevent leakage.



All suits must be worn with liquid tight chemical protective gloves.

- 1) Attach the Hose Drop Stop on the demand hose. Make sure the wide part faces the face mask. See photos below.



- 2) Put on the SCBA except the face mask.
- 3) Put on the suit and have the assistant helping to pull it over the SCBA cylinders.
Do not close the zipper.
- 4) Pull the demand hose through one of the chest openings/slits. Choose the side that fits your SCBA configuration best:
 - a) If the mask has a quick connection to the hose, disconnect it and pull the hose through the slit from inside to outside. Connect it to the mask.
 - b) If the mask is fixed to the hose, carefully pull the entire mask through the slit from inside to outside.

- 5) Put on the mask.
- 6) Close the zipper fully.
- 7) Fit the hood carefully around the face mask.



AlphaTec® 66-320 model 146 does not offer protection of the face. It is important that the neck flap is properly closed and that the hood elastic fits tightly around any face/respiratory protection to achieve protection in this area. The opening in the face/neck area may allow leakage into the suit if the face/respiratory protection does not fit tightly in the hood or if no face protection is worn.

- 8) Close the zipper splash guard and chin flap.
- 9) Put on gloves (if separate) and close the hook-and-loop fasteners on the sleeves tightly.
- 10) Position the hose in the upper end of the slit opening. Make sure the wide part of the Hose Drop Stop is outside the slit and the thin part is positioned in the slit. Close the hook-and-loop fastener carefully and tight around the thin part of the Hose Drop Stop. See photo below.



11. Ready.

6. In use

During the intervention, make sure to:

- Minimize the exposure to chemicals
- Avoid direct contact with the chemicals as far as possible

6.1 Procedure for checking manometer/pressure gauge

To check the manometer/pressure gauge, do as follows:

- 1) Open the chest slit
- 2) Reach inside for the manometer and pull it through the slit
- 3) Make sure to close the hook-and-loop fastener carefully again, so that the Hose Drop Stop stays in place, avoiding liquid leakage into the suit.

7. After use

7.1 Initial decontamination

After a response in hazardous environment, the suit must be decontaminated before taking it off, to protect the wearer from contamination.

- Make sure to have an assistant for the decontamination.
- The assistant also needs to wear suitable protective clothing and possibly respiratory protection.
- Rinse the suit with plenty of water, preferably with added detergent.

7.2 Taking off the suit

After decontamination, take off the suit in reverse order of that described for donning above, and have someone to assist you.

7.3 Final decontamination

If the initial decontamination is not enough, a second decontamination is necessary.

- Use protective clothing/equipment when handling the contaminated suit.
- Acids and Alkaline chemicals can be decontaminated using large amount of water. When the rinsing water has pH 7 the suit is clean.
- Inorganic chemicals can often be decontaminated using large amount of water and detergent.
- Volatile chemicals can be aired out of the suit. Hang the suit outdoors or in a well-ventilated area with the zipper fully open. Check the air for residual chemicals by using simple gas detecting tubes.
- For chemicals such as oil/petroleum and other organic chemicals, special decontamination agents may be needed. The type of agents available differ between countries and regions. Contact a local supplier.
- Biological agents (i.e. bacteria, viruses) can be decontaminated using e.g. 3% hydrogen peroxide water solution or other similar disinfectants.

8. Storage



When stored the suit should be unfolded and inspected once a year (see chapter 9).

8.1 Storage conditions

- Dry, humidity $50 \pm 30\%$
- Room temperature, +5 to +25 °C
- Away from direct sunlight
- Away from ozone-generating sources, for example electrical engines, fluorescent lamps and air-conditioners

8.2 Storage methods

The suit should be stored:

- Folded as upon delivery or hanging
- In the plastic bag delivered with it or in another tight bag or box
- If stored in a box, make sure the box is large enough to easily accommodate the suit without pushing, pressing or squeezing it. Please refer to the boxes listed in the AlphaTec® Gross Price List.

8.3 Shelf life

Shelf life refers to suits in storage, without being used. The storage/shelf life applies under optimal storage conditions (see above) and does not form a guarantee. The recommended Shelf life is 7 years from date of manufacture, but this may be exceeded or be less. Therefore, the condition of the suit needs to be checked regularly to evaluate whether it is in good condition or not (see chapter 9).



Shelf life for attached gloves, see separate Instructions for Use.

9. Maintenance


9.1 Maintenance schedule

The specified intervals below are Ansell recommendations. For auxiliary equipment (SCBA, full-face mask, helmet etc.), refer to the relevant Instructions for Use.

The maintenance described below can be done by personnel without formal training, provided the instructions in this IFU are followed. For a list of spare parts & accessories, see chapter 11.6.

Area (chapter)	Upon Delivery	After Use	After Repair	Annually	Every 5 years	If Broken
Visual inspection (9.2)	X	X	X	X		
Cleaning (9.3)		X				
Lubricate Bayonet O-Rings - if fitted (9.4)		X		X		
Repair & Replacements						
Patching suit material (9.6)						X
Rubber gloves (9.5)		X (*)				X
Bayonet O-rings (9.4)					X	X
Bayonet locking pins (9.4)					X	X

(*) Rubber gloves to be replaced after use, if chemically contaminated.

 For repair or replacement of face seal, visor, boots and zipper, contact an Ansell Service Center, or take a Training course provided by Ansell

9.2 Visual inspection of suit

The inspection shall consist of the following steps (see also chapter 9.1):

- Visual inspection of both inside and outside.
- Look for surface damages on material, seams and gloves (if fitted)
- Look for changes in the material properties such as brittleness, stiffness, swelling, stickiness or other phenomena which could be evidence of chemical degradation or aging.
- Check function of zipper and zipper fitting.
- Check function of the Bayonet glove ring system (if fitted)



If any defect/malfunction is found, the suit must be taken out of service.



Note any remarks, found during the inspection, in the inspection log.

9.3 Cleaning

For decontamination guidelines, see chapter 7.

9.3.1 Hand wash

Ansell recommends hand washing the suit:

- Hand wash in warm water (40 °C) with added mild detergent. E.g. EW80 may be used for cleaning and disinfection.
- Use a piece of soft rag or a smooth brush to clean the suit.



Care should be taken not to scratch or damage the material.

- Let the suit air-dry or use a fan (alternatively a cleaning system such as the TopTrock® may be used).
- Stains of oil or other substances may be washed off carefully with alcohol/ethanol. If this is not effective, a solvent like white spirit may be used carefully.



Take care not to use more solvent than necessary.

- After this, the suit should be rinsed with lukewarm water with a mild detergent followed by water.



Do not use garments that are not thoroughly cleaned and dried.

The suit material will withstand most commercial disinfectants. Your AlphaTec® dealer or Ansell Protective Solutions AB may be contacted for advice.

9.3.2 *Machine wash*

Machine wash is not recommended. Tumble-dry is not allowed (it may damage the suit).



Machine washing the suit is the customer's choice and responsibility.

9.4 Bayonet ring (if fitted)

9.4.1 Function

The AlphaTec® Bayonet ring system consists of the following parts:

Sleeve ring – glued to the suit sleeve

Glove ring – where the glove is mounted

Inner ring* – goes inside the shaft of the rubber glove

Viton® rubber O-rings – one in the sleeve ring and one in the glove ring. Together with the rubber glove they provide a triple sealing of the system.

Safety locking pin – prevents the system from unintentional opening



Closed position

Green marks opposite white marks.
To open the system and detach the glove assembly, remove the red locking pin, push the two rings together and twist counter-clockwise until the white marks meet.



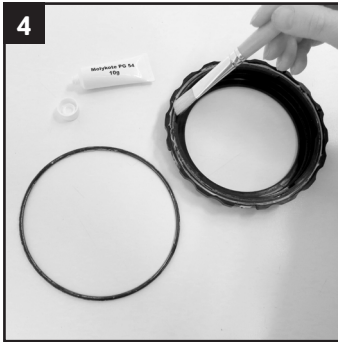
Open (detach/attach) position

White marks opposite white marks.
To attach the glove ring, match the white marks, push the two rings together and twist clockwise until the white marks meet the green marks. Insert the red locking pin.

9.4.2 Maintenance

Procedure:

- 1) Open the Bayonet ring and take out the two O-rings.
- 2) Apply Molycote all around the groove.
- 3) If replacing the O-rings: Put the two new O-rings into place.
- 4) Use a small paintbrush to spread the grease evenly.



When functioning properly, the safety locking pin “snaps” into place when pushing it with a finger. The pin may after repeated use become too easy to push into place, i.e. it gets worn out, and must then be replaced.



The two O-rings are different size:
The one with larger diameter goes into the glove ring and the smaller diameter into the sleeve ring.

9.5 Replacing gloves (if fitted)

Procedure:

- 1) Take out the Safety locking pin.
- 2) Push the rings towards each other, then turn clockwise, to open the ring system.



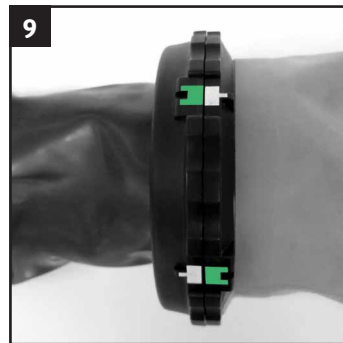
- 3) Pull the gloves out of the ring.
- 4) Take the new glove and place the black inner ring approximately 5 cm/2 inches into the rubber glove.



- 5) Lubricate the O-rings with Molycote.
- 6) Push the glove through the glove ring and align the thumb of the glove with the green mark on the glove ring. Push it firmly into place using your thumbs.



- 7) Fold the glove shaft into the glove ring.
- 8) Position the glove ring and the sleeve ring so that the two white marks are opposite each other.
- 9) Now push the two rings towards each other and turn counter-clockwise, so that the white and the green marks meet.



- 10) Attach the safety locking pin.

9.6 Patching

Minor damage, e.g. tears, punctures, scratches, can be patched using the AlphaTec® (TRELLECHEM®) Repair Kit, which also contains instructions (see chapter 11.6).

9.7 Marking on the suit

Marking on the suit can be made by a “permanent marker” type of pen.

-  Make sure the ink has dried before folding/packing the suit for storage.

10. Disposal

Worn out suits should be disposed of according to local regulations for rubber/plastic waste. Incineration is recommended.

Suits that are not completely decontaminated must be disposed of in a safe manner, taking local regulations for the specific chemical into account.

10.1. Retirement consideration

A suit should be retired when fulfilling one or more of the below criteria:

Criteria for retirement:	Explanation
Beyond repair	The damage is too big and therefore not possible/not safe to repair.
	The suit has already been patched 10 times.
	The cost for repair is higher than to buy a new suit.
Chemically degraded	Chemical degradation cannot be stopped or repaired.

11. Technical Data Package

11.1 Suit sizes

SUIT SIZE	HEIGHT (cm)	CHEST/BUST GIRTH
XXS	158-170	80-88
XS	164-176	84-92
S	170-182	88-96
M	176-188	92-100
L	182-194	96-104
XL	188-200	100-108
XXL	194-206	104-112
XXXL	200-212	108-116

NOTE: The data refers to a wearer without SCBA or any other equipment.

11.2 Suit weight

Approx. 2.5 kg / 5.5 lbs for a suit size L.

11.3 Suit colour

Greenish yellow.

11.4 Materials, seams & components

Suit part/Component	Description
Suit material:	66-320: Polyamide (nylon) knitted (stretch) fabric coated on outside with PVC, total weight 430 g/m ² .
Suit seams:	Welded
Glove material - if fitted:	AlphaTec® (Scorpio) #08-354 made from Neoprene (chloroprene) rubber.
Attachment:	Gloves are attached with a Bayonet ring system (see chapter 9.5). The ring is glued to the suit.
Zipper:	Nylon zipper
Length:	1020 mm
Attachment:	The zipper is stitched to the suit.
Hose Drop Stop material:	TPU (thermoplastic polyurethane)

11.5 List of spare parts & accessories

Description & Name	Sizes	Article no
Gloves:		
AlphaTec® (Scorpio) #08-354	9 10	K72 250 160 K72 250 170
Cotton comfort inner glove, 5 pairs	10	K72 240 201
Footwear:		
PVC Safety boot	41 42 43 44 45 46 47	K72 203 410 K72 203 420 K72 203 430 K72 203 440 K72 203 450 K72 203 460 K72 203 470
Storage:		
AlphaTec® Bag		K78 751 786
Hanger		K72 400 100
Storage box, plastic (small)		K78 700 120
Maintenance & Repair:		
Lubrication for Bayonet ring system, 5 pcs		K69 095 006
Viton O-rings for Sleeve ring, 10 pcs		K72 000 606
Viton O-rings for Glove ring, 10 pcs		K72 000 611
Safety locking pin for Bayonet ring system, 10 pcs		K73 103 586
Repair kit AlphaTec® 66-320, greenish yellow*		487 080 214

*Instructions included.

11.6 EU type approval data

See EU type approval on page 8. Tests and classification according to EN 14325:2004, EN 14325:2018 and EN 14126:2003.

It should be noted that all chemical testing was performed on swatches of suit material under laboratory conditions, not under actual workplace environments. The user must determine the applicability of the results obtained under laboratory conditions to the actual conditions of use. Information presented is subject to change without notice.

SUIT MATERIAL AND SEAM - MECHANICAL DATA			
PROPERTY	TEST METHOD	CLASS REQUIREMENT	CLASS
Abrasion resistance	EN 14325:2004/2018, EN 530	> 2000 cycles	6
Flex cracking resistance	EN 14325:2004, ISO 7854:B	> 15000 cycles	4
Flex cracking resistance	EN 14325:2018, ISO 7854:B	> 8000 cycles	4
Flex cracking @ -30°C	ISO 7854:B	> 1000	4
Tear resistance	EN ISO 9073-4	> 60 N	4
Tensile strength	EN ISO 13934-1	> 250 N	4
Puncture resistance	EN 863	> 10 N	2
Resistance to flame*	EN 13274-4 method 3	1 sec in flame, leak tight afterwards	2
Antistatic properties, garment material*	EN 1149-5:2018	$t_{50} < 4$ sec	Pass
Seam strength	EN ISO 13935-2	> 300 N	5
Limited flame spread index (LFI)*	EN ISO 14116:2015	Afterflame/afterglow ≤ 2 s	1

* Not part of EN 14605 and EN 14325 requirements.

SUIT MATERIAL, SEAM AND COMPONENTS - RESISTANCE TO PERMEATION BY CHEMICALS			
CHEMICAL	SUIT MATERIAL	SEAM	ALPHATEC® (SCORPIO) #08-354 GLOVES
Formaldehyde solution	6	6	6
Hydrochloric acid, 37%	6	6	6
Sodium hydroxide, 40%	6	6	6
Sulphuric acid, 50%	6	6	6
Tested according to ISO 6529, breakthrough criteria 1.0 µg/min/cm². NOTE: AlphaTec® 66-320 is not suited for exposure to solvents.			

CLASSIFICATION OF PERMEATION BREAKTHROUGH TIME						
CLASS	1	2	3	4	5	6
PERMEATION TIME	> 10 min	> 30 min	> 1 hr	> 2 hr	> 4 hr	> 8 hr

SUIT MATERIAL – RESISTANCE TO PENETRATION BY INFECTIVE AGENTS	
CHEMICAL	SUIT MATERIAL
Synthetic blood (ISO 16603:2004)	6
Phi-X174 bacteriophage (ISO 16604:2004)	6
Penetration by biologically contaminated aerosols, using Staphylococcus aureus ATCC 6538 (ISO/DIS 22611:2003)	3
Dry microbial penetration, using Bacillus subtilis (ISO 22612:2005)	3
Wet bacterial penetration, using Staphylococcus aureus ATCC 29213 (EN ISO 22610)	6
Tests and classification according to EN 14126 - infective agents.	

12. Warranty

In case of faults or defects, if any, in the protective suits, including gloves and other accessories, the following is applicable:

If a fault or defect appears in the protective suit as a result or in the course of any use, function or state of the protective suit, the purchaser is requested to contact the company from which the suit was purchased. The terms of sale agreed upon between the purchaser and the said company shall apply in this case. Ansell Protective Solutions AB shall have no liability to purchasers of the protective suits other than when the suit in question was purchased directly from Ansell Protective Solutions AB.

The liability of Ansell Protective Solutions AB for faults or defects of a protective suit shall be subject to the Standard Warranty set forth in its General Conditions of Delivery for Industrial Rubber Products, unless otherwise stated in a separate agreement in writing between Ansell Protective Solutions AB and the purchaser. The General Conditions of Delivery are available on request and for download on <http://protective.ansell.com/en/About/Trade-conditions/>

This manual does not in any way comprise a guarantee or warranty on the part of Ansell Protective Solutions AB, and Ansell Protective Solutions AB expressly excludes any implied warranty of merchantability or fitness. Ansell Protective Solutions AB is not in any way nor under any conditions liable for compensation to the purchaser or commercial user of a protective suit for injury to (including death of) any person or loss of or damage to property of any kind or for costs, loss of profits or other damage or loss of any nature whatsoever.

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