

PROTECTIVE COMBAT UNIFORM (PCU)



HOW DOES PCU WORK?

PCU is an integrated system designed with a **STOP/GO** concept.

STOP—Wear one combination for **STATIC** missions, depending on weather.

GO—Wear another combination for **ACTIVE** missions, depending on weather.

THINK "LEVELS" NOT LAYERS...

PCU SYSTEM: Levels

- PCU soft shell system based on levels you choose depending on mission and weather.
- PCU component levels are superior to old systems in breathability, weight and performance.
- Never expect to use all levels within the system at once.

REMEMBER!

- PCU levels allow you to wear less, not more, depending upon the mission and weather.
- Always refer to garment label to identify levels.

GET MISSION READY

The mission wheel depicts eight cold weather mission scenarios and suggests PCU levels to wear/pack. Other variations of level combinations may work best for you.

When static: User is not active and is susceptible to cold.

- High-loft Level 7 keeps user warm when not producing heat.
- Remain dry when static.
- Go from static to active: Remove Level 7 high-loft garments when necessary.

When active: User is active, producing heat/sweat/moisture.

- Levels 1-5 soft shell for quick drying and warmth.
- PCU is more breathable than waterproof, and is self-drying.
- Level 6 hard shell available when conditions warrant.

Sizing: Ensure sizing accommodates load carriage/armor.

Compression: Level 7 components are most effective when loft is not compressed.

Rain/Downpours:

- Steady drizzle: Levels 4, 5 and 7 are highly water-resistant. Stay dry—push moisture out with body heat.
- Hard downpours: Use water-proof protection (Level 6 or poncho, space blanket, etc.)

Timing: When going static, "loft up" as temperatures drop.

Planning: Conditions and missions change—pack accordingly, be prepared.

ALWAYS PLAN FOR EXTREMITY PROTECTION! COVER HEAD/NECK TO PREVENT LOSS OF SIGNIFICANT BODY HEAT!

CARE INSTRUCTIONS

ALL LEVELS

- Use household or light commercial washers and dryers for maintaining this gear. Machine wash all components in cold water. Use only powdered detergent. Double rinse soap residue to maintain garment performance.

LEVEL 6 ONLY

- Levels 4, 5 and 7 perform best when clean. Tumble dry to rejuvenate water repellent finish.

LEVELS 4, 5, 7

COLD WEATHER EXPOSURE

Temperature—when it gets cold...

Immediate effects: Blood vessels tighten; blood flow decreases; body feels colder.

Extreme effects: Lose sense of touch and dexterity; pain and severe injury possible.

Water effects: Body core temperature drops faster when you are wet.

Wind effects: Body core temperature drops faster in windy conditions.

Altitude effects: Altitude makes everything related to cold more extreme.

Cold-Wet Conditions

- Temperatures above freezing.
- Rain/sleet/wet snow/mud/slush.
- Day/night temp fluctuation causes freeze/thaw.
- Protect self from wet ground/clothing.

Cold-Dry Conditions

- Temperatures below freezing.
- Frozen ground, dry powdery snow.
- Low humidity.
- Wind chill effect in strong winds.

Snow-Covered Terrain

- Plan for 1 km/hour pace on uneven terrain.
- 1000 ft. elevation gain adds 2 hours travel.
- Navigation difficult on snow—terrain features filled in.

PROTECT AGAINST COLD BY CAREFUL CHOICE OF PCU LEVELS.

COLD WEATHER INJURIES

Above freezing

Hypothermia
Occurs when body temperature falls below 95°F from continuous exposure to cold.

Stages of Hypothermia

- Mild:** Uncontrolled, intense shivering.
- Severe:** Shivering stops, muscles stiffen and mental confusion sets in. **REQUIRES IMMEDIATE ATTENTION—LIFE THREATENING!**
- Other Signs:** Withdrawn/bizarre behavior, irritability, confusion and slurred speech.

Below freezing

Frostnip

- Skin reddened/swollen.
- "Pins and needles" feeling.
- Painful, but abates after rewarming.
- May lead to frostbite—take seriously.

Frostbite

- Freezing of body tissue: toes/feet, fingers, ears, cheeks, and nose affected first.
- After thawing, any swelling worsens injury.

AVALANCHE INDICATORS

Safety note—Always use a beacon in avalanche country!

INDICATORS OF POTENTIAL AVALANCHE

Terrain

- 30°-45° slope steepness (similar to fastest expert ski slopes).
- Recent heavy snowfall or wind-loaded snow on steep slopes.
- Convex slope configuration

Shady slopes in mid-winter.

Sunny slopes during spring melt.

Snow pack

- Long cracks on steep slopes.
- Visual evidence of recent avalanches.
- Sounds of snow pack collapse: "whoomph" or hollow sounds underfoot when walking.

THE NEW PCU SYSTEM

PCU is a state-of-the-art, seven-level, cold weather uniform system.

PCU uses the most advanced fabrics to keep you warm and dry.

PCU is a clothing system that uses different components based on mission and weather.

Active, cold and wet, above 45°F.

Static, cold, 30° to 0°F.

"COOK YOURSELF DRY"

PCU IS SELF-DRYING

Moisture management is key to PCU's superior performance.

PCU does not prevent you from getting wet—PCU will quickly dry out when you get wet, either externally or from sweat.

If you've chosen right, no need to change anything while moving—if you're soaked with sweat/rain, PCU will self-dry. (Refer to training video.)

"Cook yourself dry" with body heat.

BENEFITS OF PCU

PCU takes cold weather gear to the highest level.

You will sweat and you will get wet. PCU is a groundbreaking multipurpose 15-component high-tech system that dries fast and keeps you warm.

Positively evaluated worldwide by Special Operations Forces. Created in consultation with extreme alpinists and top outdoor apparel companies.

Features

- Rapidly wicks moisture away from the skin.
- Fast drying and breathable.
- Water repellent and wind-resistant.
- Odor controlled, antimicrobial.
- Lightweight, less bulky high-tech fabrics.

PCU LEVEL 5 soft shell replaces BDU/Cammies

- More versatile for use in wider range of conditions.
- Moisture wicks through at higher efficiency.
- More breathable in wider range of conditions.
- Quick drying.
- Does not need to be impermeable to be effective.

CARE INSTRUCTIONS

Use GORE-TEX® patches, Seam Grip®, ReviveX®, duct tape, needle and nylon thread, as appropriate, for repair and care.

GORE-TEX® patches—temporary water resistant repair for Level 6.

- Keep patches in sealed plastic bag.
- Area to be repaired must be clean and dry.
- Overlap damaged area with patch by at least 1/2".
- Repaired garments ready to use immediately, adhesive is fully cured in 12-24 hours.

Seam Grip Seam Sealer/related products—waterproof, flexible, concentrated urethane sealers for repairing surfaces/sealing seams of all PCU fabric levels.

NOTE: Fully-cured Seam Grip may cling to itself when folded. After first application, lightly dust fully-cured areas with talcum powder.

ReviveX—spray-on water repellent for Level 6 only.

DO'S AND DON'TS

Cold weather clothing do's:

To keep warm, remember word "C-O-L-D".

- CLEAN** - Keep clothing Clean.
- OVERHEATING** - Avoid Overheating.
- LEVELS** - Select appropriate PCU Levels.
- DRY** - Keep clothing as Dry as possible.

Protect your extremities with appropriate gear:

- Feet:** Use appropriate socks and insulated boots or over-boots when static. Wear snowshoes and crampons as needed.
- Hands:** Wear gloves/mittens unless they hamper Immediate Action Drills. Use contact gloves to prevent cold injuries from weapons/metal objects.
- Head:** Always wear a hat. Significant body heat is lost through the head.

Cold weather clothing don'ts:

- Don't wear restrictive clothing/tight cuffs, which reduce blood flow.
- Don't wear skin-cooling compression/high nylon clothing when retaining warmth is necessary.
- Don't wear cotton clothing. Cotton kills.
- Don't ignore sweating, shivering, unusual behavior or weather/wind changes.
- Don't accept numbness—warm the part.

SAFETY TIPS

Avoid...

- Dehydration**—Decreases warm blood flow to hands and toes.
- Exhaustion**—Mental and physical.
- Wet clothing**—Increases heat loss.
- Wind**—Removes warm air from inside clothing.

Common mistakes

- Underestimating the threat.
- Overestimating capabilities.
- Overextending companions.
- Ignoring worsening weather.
- Ignoring minor cold injuries.

Prevention of cold injuries

- Stay aware of extremities.
- Start warming early by using body parts (for example: use armpits) or increasing activity level.
- Immediately treat white, blanched, hard skin.
- Rewarming hurts as blood flow returns.
- Anticipate sweat production. Remove garments before they get wet.
- Shivering indicates a person is too cold and the body is trying to warm up. Add clothing/additional insulation and give warm fluids.

AVALANCHE RISK

Weather

- Strong winds, loading heavy snow onto steep slopes.
- Recent rapid warming.
- Recent rapid melting.
- Heavy precipitation (rain or snow) on new snow—greater than 1" per hour.

Human Factors

- Poor/inadequate equipment.
- Lack of experience in avalanche territory.
- Poor preparation.

Compacency

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Sources: U.S. Forest Service National Avalanche Center/Utah Avalanche School/American Avalanche Association/Utah Avalanche Center/University of Calgary Applied Snow and Avalanche Research/Avaniche.org

INSTRUCTIONS

This guide contains eight common cold weather mission scenarios and suggested PCU levels to wear/pack. As you use the system, you may find variations of level combinations that work best for you.

STEP 1

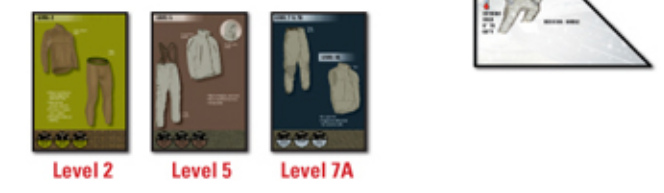
What is your mission?
Ex: You will be active.

STEP 2

What is the weather?
Ex: Temps will be 0° to -50°F.

STEP 3

Select levels.
Ex: Wear 2, 5 and 7A.



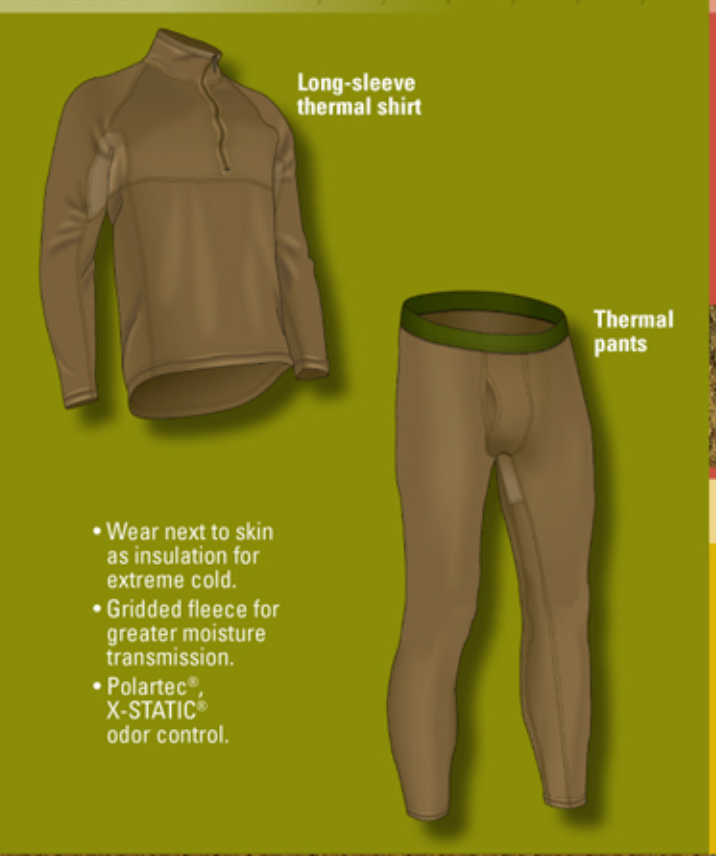
LEVEL 1 - SHORT



LEVEL 1 - LONG



LEVEL 2



LEVEL 3



LEVEL 4



LEVEL 5



LEVEL 6



LEVEL 7



LEVEL 7 & 7A



MISSION: STATIC

WET ABOVE 45°F

MISSION: STATIC

COLD/WET 45° TO 30°F

LEVEL 6 CAMMIES LEVEL 4

LEVEL 6 LEVEL 5 LEVEL 3 LEVEL 1

WHAT'S YOUR MISSION? SELECT LEVELS

WHAT'S THE WEATHER?

LEVEL 1 LEVEL 1 LEVEL 1

MISSION: ACTIVE

WET ABOVE 45°F

MISSION: ACTIVE

COLD/WET 45° TO 30°F

LEVEL 6 CAMMIES LEVEL 4

LEVEL 6 LEVEL 5 LEVEL 3 LEVEL 1

WHAT'S YOUR MISSION? SELECT LEVELS

WHAT'S THE WEATHER?

LEVEL 1 LEVEL 2 LEVEL 5

MISSION: STATIC

COLD 30° TO 0°F

MISSION: STATIC

EXTREME COLD 0° TO -50°F

LEVEL 7 LEVEL 5 LEVEL 3 AS NEEDED LEVEL 2 LEVEL 3 LEVEL 5 LEVEL 7 & LEVEL 7A

WHAT'S YOUR MISSION? SELECT LEVELS

WHAT'S THE WEATHER?

LEVEL 1 LEVEL 2 LEVEL 5

MISSION: ACTIVE

COLD 30° TO 0°F

MISSION: ACTIVE

EXTREME COLD 0° TO -50°F

LEVEL 7 LEVEL 5 LEVEL 3 AS NEEDED LEVEL 2 LEVEL 3 LEVEL 5 LEVEL 7 & LEVEL 7A

WHAT'S YOUR MISSION? SELECT LEVELS

WHAT'S THE WEATHER?

LEVEL 1 LEVEL 2 LEVEL 5

EACH INDIVIDUAL'S PHYSIOLOGY IS UNIQUE. THIS USER GUIDE IS INTENDED AS BASELINE GUIDANCE FOR THE PCU SYSTEM. USERS MUST EVALUATE THEIR OWN PERSONAL COLD WEATHER TOLERANCE AND DRESS ACCORDINGLY FOR OPTIMAL COLD WEATHER PROTECTION.