



Be Safe
Be
Seen





VizLite™ DT Products

VizLite Dual Technology is a combination of phosphorescent and reflective technologies and is a revolution in safety.

Currently most hi-viz garments rely on fluorescent fabrics to enhance the wearer's visibility in daylight, and retro-reflective materials to reflect back vehicle headlights in darkness.

VizLite™ Dual Technology phosphorescence offers a third level of protection, when there is low light or no light, by giving off an intense glow for up to 8 hours, without the use of batteries.

VizLite™ Dual Technology phosphorescence is charged by ultraviolet light after five to ten minutes of exposure.

Let's discuss the 3 levels of visibility to give you a better idea of the difference wearing a VizLite product will make.



The Three Levels of Visibility

FLUORESCENCE

Base Fabrics for daytime conspicuity

This type of technology absorbs and re-emits light energy immediately, to increase visibility in daylight. These bright fabrics make the wearer more conspicuous against the surrounding background. Fluorescence is a type of Photoluminescence similar to Phosphorescence but instead of storing UV energy the molecules in the fabrics absorb light at a specific wavelength and emitting light at a longer wavelength.

REFLECTIVE

Reflective fabric reflects light back to source

Retro-reflective materials use either microscopic glass beads or plastic prisms to reflect light back to the source. The source is usually vehicle headlights. These types of materials will bounce light back at a range of angles to make the wearer visible in the dark. This technology relies on a light source to work. There is a wide range of different VizLite retro-reflective tapes that will work alongside VizLite™ DT phosphorescent materials.

PHOSPHORESCENCE

Absorbs UV light and re-emits it as an afterglow

VizLite™ DT phosphorescent materials absorb UV light energy from either natural or artificial light, which is then re-emitted as an afterglow in low light and dark conditions. The pigments used in VizLite™ DT phosphorescent have been formulated to a patent-pending recipe to ensure a quick charging time of 5 – 10 minutes, a strong level of afterglow brightness, extensive wash performance, and a long afterglow lasting up to 8 hours.



10 Reasons To Use **VizLite™ DT** DUAL TECHNOLOGY

1. Increases Visibility

VizLite™ DT offers an extra layer of visibility in areas of low light and darkness unlike normal reflective tape that relies on a secondary light source such as car headlights, VizLite™ DT works when there is no light source.

2. No Batteries Required

VizLite™ DT charges by exposure to UV light, either natural or artificial. It quickly reaches its full charge in 5-10 minutes and will glow for up to eight hours with the first hour being the brightest.

3. Innovation in Safety

This patent pending technology is a real breakthrough in safety. It has been developed and brought to market by a UK company. It is now being used by forward thinking companies in the Rail, Traffic Management, Construction, Aggregates and Police sectors.

4. It's An Award Winner

VizLite™ DT is a multi-award winning product including Winner of the Future Materials award for innovation in Clothing 2015; PPE Innovation of the Year award at Professional Clothing Awards 2016 – V360 Range clothing from Shield360 Incorporating VizLite™ DT Technology; Voted favourite product among visitors to Trust Pet Products Trade Show 2017.

5. Independent Certification

Certified to meet and exceed global standards including the areas of Photo Luminescence, FR Protection, Antistatic, Arc Protection, ANSI 107 and ISO20471 High Visibility, Oeko-Tex with testing undertaken at SATRA, BTTG, ArcWear, UL, Centrocot, VTEC Laboratories Inc. and Shirley Technologies.

6. No Ongoing Maintenance

VizLite™ DT has no mechanical or electrical parts that can malfunction and does not rely on users having to carry out maintenance. It is simply ready to go when you are, with no on or off switch!

7. Versatility – It's Not Just For Work Wear

Through collaboration with Branding, Sportswear, Equestrian, Lifestyle and Pet Markets, VizLite™ DT has demonstrated to be a unique safety solution offering the potential to enhance personal safety while taking part in the activities we love.

8. You Can Launder On The Garment

VizLite™ DT has been formulated to meet a range of laundry conditions including domestic wash, tumble dry, dry clean and industrial laundry. It has been independently tested by SATRA to ensure that performance is not affected by the laundry methods commonly used.

9. Evolving Product

Through constant re-evaluation of our customer's performance requirements and ongoing research and development, Viz is developing new VizLite™ DT products to meet the needs of the FR and Industrial Laundry markets.

10. Join The Safety Revolution

VizLite™ DT is far more than a just USP or novelty, it offers a real opportunity to increase the visibility and therefore safety of workers around the world. Come join the safety revolution by adding VizLite™ DT to your products.

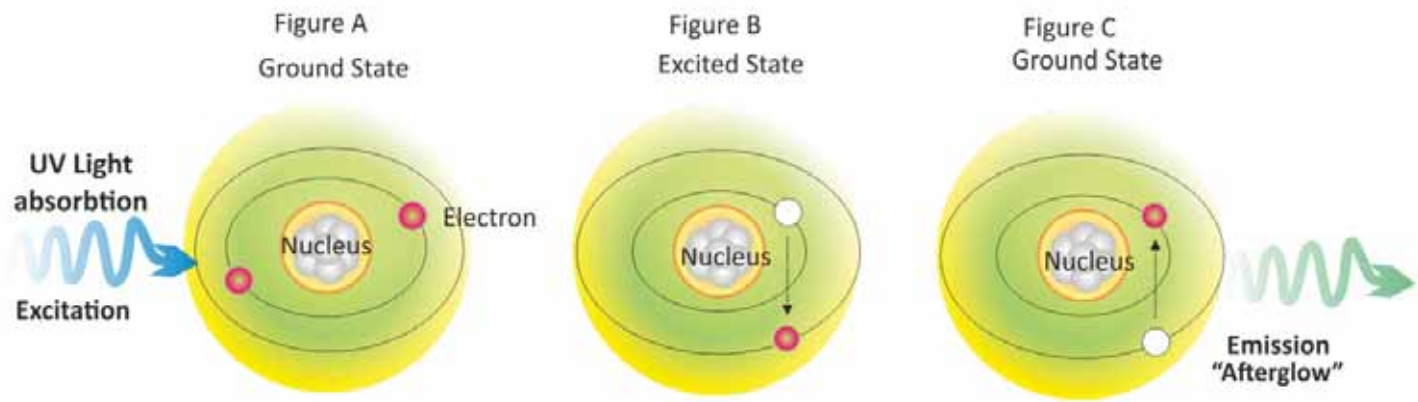


How does VizLite work?



On an atomic level when the electrons in an atom of phosphorescent pigment are exposed to photon energy in the form of UV light, (Figure A) they enter an excited state and move into a higher spin state. This Excitation of electrons to a higher state is accompanied with the change of a spin state. (Figure B).

Once in a different spin state, electrons cannot relax into the ground state quickly because the re-emission involves quantum mechanically forbidden energy state transitions. At this point the electrons return to the ground state releasing the stored energy as visible light. As these transitions occur very slowly in VizLite DT, absorbed radiation may be re-emitted at a lower intensity for up to eight hours after the original excitation. (Figure C).

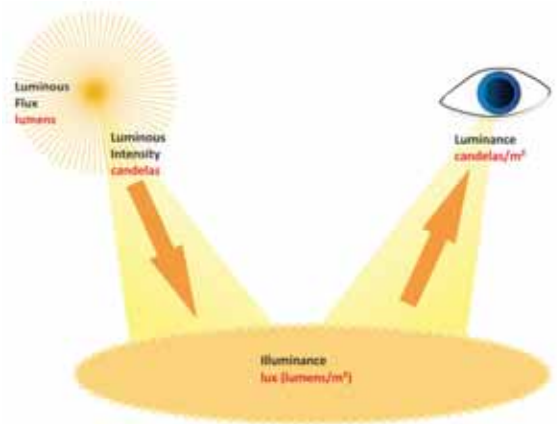


The Strontium Nitrate phosphorescent pigments that are used to produce VizLite DT are formulated to meet our requirements of a quick charge time, a bright “afterglow”, extended “afterglow” period and high laundry performance.

Charging

The following chart shows the different charging times for VizLite DT depending on the light conditions. The light intensity is measured in Lux which is the number of Lumens per square metre.

LIGHT SOURCE	LIGHT INTENSITY (Lux)	Charging Time
Clear Sunlight	>50,000	5 minutes
Cloudy	3,000 - 50,000	5 minutes
Dusk	1,000	8 minutes
Fluorescent Office Lights	500	10 minutes



The amount of light being given off by a particular source, in all directions, is called luminous flux (or “luminous power”) and is a measure of the total perceived power of light.

DAKOTA
WORKPRO SERIES



VizLite® DT
DUAL TECHNOLOGY

CLASS 1 150D JACKET

- 150 Denier Trilobal ripstop polyester coated in PVC. Waterproof. Provides superior tear resistance and flexibility in cold and wet conditions.
- Mesh-lined body, polyester-lined body/hood.
- Detachable 3-piece peaked hood features centre-back adjustable strap and elasticized drawcord with barrel locks.
- Anti-pill fleece-lined collar with locker loop at neckline.
- Vented front/back yokes and grommated underarms for added breathability.
- Adjustable Velcro wrist straps help to seal out weather.
- Heavy-duty zippered closure between double storm flaps.
- Dual reflective chest straps for ID badge, cell phone or radio. Zipper close pocket inside right chest. Zippered tech pocket with headphone loop inside left chest. Large lower front patch pockets with Velcro close flaps.
- Key seams double stitched for durability.

SAFETY COMPLIANCE

2" reflective material in 4" contrasting tape meets WCB/Worksafe/DOT configuration.
Fully compliant with: CSA Z96-15, Class 1, Level 2.

COLORS: Black

SIZES: S-3XL

STYLE: 1AAGDK-VLJU01, 1AAGDK-VLJU01X

AGGRESSOR



VizLite® DT
DUAL TECHNOLOGY

CLASS 2 3in1 JACKET

- Best in Class fabric technology that using proprietary HydraTex Technology.
- Ballistic nylon Radio Bars.
- Concealed durable nylon Delrin zipper front enclosure.
- D-scoop ski bottom. Mitred flapped, deep no fall-out pockets (outer & inner jkt.).
- Re-inforced stitching at critical stress points.
- Full CSA Taping (outer & inner jkt.).

OUTER JACKET

- Quick release 6pc construction hood with baseball rim, adjustable 3-heads pulls with double contoured Velcro elements closures.
- Plush and soft to skin Tricot lined collar.
- Superior storm flaps to keep water out.
- Tear drop sleeve to promote rain run off.

- Flexible 2 pc. elastic and Velcro cuffs.

INNER JACKET

- Mock neck construction to fit comfortably on your neck.
- Contrast ribbed cuffs that keep the sleeves in place.

SAFETY COMPLIANCE

2" reflective material in 4" contrasting tape meets WCB/Worksafe/DOT configuration.
Fully compliant with: CSA Z96-15, Class 1, Level 2.

COLORS: Orange, Lime

SIZES: S-3XL

STYLE: JC-575U-VZ

DAKOTA
WORKPRO SERIES



VizLite® DT
DUAL TECHNOLOGY

CLASS 2 150D JACKET

- 150 Denier Trilobal ripstop polyester coated in PVC. Waterproof. Provides superior tear resistance and flexibility in cold and wet conditions.
- Mesh-lined body, polyester-lined body/hood.
- Detachable 3-piece peaked hood features centre-back adjustable strap and elasticized drawcord with barrel locks.
- Anti-pill fleece-lined collar with locker loop at neckline.
- Vented front/back yokes and grommated underarms for added breathability.
- Adjustable Velcro wrist straps help to seal out weather.
- Heavy-duty zippered closure between double storm flaps.
- Dual reflective chest straps for ID badge, cell phone or radio. Zipper close pocket inside right chest. Zippered tech pocket with headphone loop inside left chest. Large lower front patch pockets with Velcro close flaps.
- Key seams double stitched for durability.

SAFETY COMPLIANCE

2" reflective material in 4" contrasting tape meets WCB/Worksafe/DOT configuration.
Fully compliant with: CSA Z96-15, Class 2, Level 2.

COLORS: Orange, Lime

SIZES: S-3XL

STYLE: 1AAGDK-VLJU02, 1AAGDK-VLJU02X

AGGRESSOR



VizLite® DT
DUAL TECHNOLOGY

CLASS 2 DELUXE HOODIE

- Best in Class fabric technology that using proprietary HydraTex Technology.
- 4" inch contrast backing reflective tape featuring 2" CSA/ANSI retroreflective striping. Additional full body coverage of Vizlite , patented Fluorescence technology.
- Quick release 3 piece construction hood with baseball rim, adjustable.
- Plush and soft inner collar special lining finish.
- Ballistic nylon radio bars.
- High tenacity composite YKK zipper two-way full zipper access with composite pull tab.
- Unique Hidden pencil opening on Reese pocket, with Velcro closure
- Durable Teflon Treated, water resistant, fade resistant and heavy duty wear poly cotton arm guards.

- Tapered sleeve and straight body.
- Color matching ribbed sleeves and ribbed curtain.
- Double layer lined collar and yoke.
- Generously sized front slash pockets, bartacked at critical stress points.
- Super HiViz ANSI Rated Durable yet comfort rated poly/cotton knit body material.

- Fusible interlining in plackets, collars to retain form.

SAFETY COMPLIANCE

2" reflective material in 4" contrasting tape meets WCB/Worksafe/DOT configuration.
Fully compliant with: CSA Z96-15, Class 2, Level 2.

COLORS: Orange, Lime

SIZES: S-3XL

STYLE: JC-550M-VZ



DAKOTA
WORKPRO SERIES



VizLite® DT
DUAL TECHNOLOGY

CLASS 1 LINED 150D RIPSTOP WORK PANTS

- PVC-coated ripstop: Provides superior tear resistance and remains flexible in cold and wet conditions.
- Taped seams provide waterproof protection.
- VizLite® DT Phosphorescent tape increases visibility in low or zero light conditions.
- Elasticized waist with drawcord.
- Locker loop at back waist.
- Mesh lining in upper pant.
- Articulated knees for improved mobility.
- Zippered side-front pockets. Single back pocket with flap.
- Ankle zippers with adjustable straps. Makes pants easy to get on and off – even over boots.

SAFETY COMPLIANCE

The garment meets CSA Z96:22 Class 1, Level 2 when worn with a compliant top with reflective arm bands.

COLORS: Black

SIZES: S-3XL

STYLE: 1AAADWS-VLWP01, 1AAADWS-VLWP01X



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WORKPRO SERIES



VizLite® DT
DUAL TECHNOLOGY

CLASS 1 300D SURVEYORS VEST

- 300 Denier trilobal ripstop polyester coated in polyurethane. Water resistant. Provides superior tear resistance and flexibility in cold and wet conditions.
- Dual reflective chest straps hold ID badge, cell phone or radio.
- Locker loop inside neck.
- Copper snap front closure.
- Mesh side vents for added breathability.
- Side gussets for expandable fit.

SAFETY COMPLIANCE

2" reflective material in 4" contrasting tape meets WCB/WorkSafe/DOT configuration. Fully compliant with: CSA Z96-15, Class 1, Level 2

COLORS: Black

SIZES: S-3XL

STYLE: 1AAFDK-VLVU01, 1AAFDK-VLVU01X



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WORKPRO SERIES



VizLite® DT
DUAL TECHNOLOGY

CLASS 2 LINED 150D RIPSTOP WORK PANTS

- PVC-coated ripstop: Provides superior tear resistance and remains flexible in cold and wet conditions.
- Taped seams provide waterproof protection.
- VizLite® DT Phosphorescent tape increases visibility in low or zero light conditions.
- Elasticized waist with drawcord.
- Locker loop at back waist.
- Mesh lining in upper pant.
- Articulated knees for improved mobility.
- Zippered side-front pockets. Single back pocket with flap.
- Ankle zippers with adjustable straps. Makes pants easy to get on and off – even over boots.

SAFETY COMPLIANCE

The garment meets CSA Z96:22 Class 3, Level 2 when worn with a compliant top with reflective arm bands.

COLORS: Lime, Orange

SIZES: S-3XL

STYLE: 1AAADWS-VLWP02, 1AAADWS-VLWP02X



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WORKPRO SERIES



VizLite® DT
DUAL TECHNOLOGY

CLASS 2 300D SURVEYORS VEST

- 300 Denier trilobal ripstop polyester coated in polyurethane. Water resistant. Provides superior tear resistance and flexibility in cold and wet conditions.
- Dual reflective chest straps hold ID badge, cell phone or radio.
- Locker loop inside neck.
- Copper snap front closure.
- Mesh side vents for added breathability.
- Side gussets for expandable fit.

SAFETY COMPLIANCE

2" reflective material in 4" contrasting tape meets WCB/WorkSafe/DOT configuration. Fully compliant with: CSA Z96-15, Class 2, Level 2

COLORS: Lime, Orange

SIZES: S-3XL

STYLE: 1AAFDK-VLVU02, 1AAFDK-VLVU02X



AGGRESSOR

VizLite® DT
DUAL TECHNOLOGY

Men's & Ladies
5 POINT TEAR-AWAY
SAFETY VEST

- 100% Polyester safety mesh.
- Reinforced stitching at critical stress points.
- 2 radio bars for hands-free access.
- Generous sized pockets for optimal storage.
- Straight sleeve and body, generously cut to allow coverage over garments.
- Opening for safety hook pass through.
- Long vest tails.
- 2 tone high visibility contrast (Tru-Flex) for comfort and form retention.
- VizLite® Phosphorescent tape combined with 4" super stretch comfort HV backing and 2" retro-refl ective safety tape.
- Super soft industry proven moisture wicking and breathable HydraTex® Temp. Mgmt. System.

SAFETY COMPLIANCE
Fully compliant with: CSA Z96-15, Class 2, Level 2. ANSI Type R Class 2.

COLORS: Lime, Orange

SIZES: S/M - 4XL/5XL

STYLE: JC-200M-VZ (Men's), JC-200F-VZ (Ladies)



AGGRESSOR

VizLite® DT
DUAL TECHNOLOGY

Men's & Ladies
LONG-SLEEVE
SAFETY SHIRT

- 180 gsm, 100% Polyester.
- Self fabric soft collar for comfort, form retention and color matching.
- Stretch gusset for complete ease of movement and ultimate comfort.
- Reinforced cover stitched arms for added durability and strength.
- Straight sleeve and body, generously cut to allow for shrinkage in length.
- Extra-long shirt tails.
- DM® Reflective Industrial Grade striping on arms (optional).
- VizLite® Phosphorescent tape combined with 4" super stretch comfort HV backing and 2" retro-reflective safety tape.
- Industry proven moisture wicking and breathable HydraTex® Temp. Mgmt. System.

SAFETY COMPLIANCE
Fully compliant with: CSA Z96-15, Class 2, Level 2. ANSI Type O Class 2.

COLORS: Lime, Orange

SIZES: S - 5XL

STYLE: JC-502M-VZ (Men's), JC-502F-VZ (Ladies)



AGGRESSOR

VizLite® DT
DUAL TECHNOLOGY

Men's & Ladies
SHORT-SLEEVE
SAFETY SHIRT

- 180 gsm, 100% Polyester.
- Self fabric soft collar for comfort, form retention and color matching.
- Stretch gusset for complete ease of movement and ultimate comfort.
- Reinforced cover stitched arms for added durability and strength.
- Straight sleeve and body, generously cut to allow for shrinkage in length.
- Extra-long shirt tails.
 - DM® Reflective Industrial Grade striping on arms (optional).
 - VizLite® Phosphorescent tape combined with 4" super stretch comfort HV backing and 2" retro-reflective safety tape.
 - Industry proven moisture wicking and breathable HydraTex® Temp. Mgmt. System.

SAFETY COMPLIANCE
Fully compliant with: CSA Z96-15, Class 2, Level 2. ANSI Type O Class 2.

COLORS: Lime, Orange

SIZES: S - 5XL

STYLE: JC-501M-VZ (Men's), JC-501F-VZ (Ladies)



VizLite® DT
DUAL TECHNOLOGY

SAFETY STANDARDS / COMPLIANCE

VizLite™ DT Photo luminescent material is suitable for use in the PPE market alongside retro reflective materials for the inclusion in High Visibility Warning clothing such as EN ISO 20471:2013 and ANSI 107:2010 Jackets and Waistcoats to enhance visibility in low light and night time conditions. VizLite™ DT is used to give a garment photo luminescence properties which can increase the visibility of the wearer and is suitable for inclusion in Sportswear, Corporate Clothing, Equestrian and general PPE.

VizLite™ DT 7050 Photo luminescent is tested by VTEC laboratories, New York to the following standard, ISO 17398:2004 "Safety Colours and Safety Signs – Classification, Performance and Durability of Safety Signs" Clause 7.11.



HEAD OFFICE:

205 Quarry Park Blvd. SE,
Calgary, Alberta T2C 3E7

P 1.855.592.7444

W markscommercial.com