

Standard

**Transport and Main Roads
Queensland Traffic Controller Clothing Standard**

July 2016

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Contents

- 1 Purpose.....1**
- 2 Traffic control functions1**
- 3 Breaks from STOP/SLOW duties.....2**
- 4 Periods of darkness2**
- 5 Trainees on site.....2**
- 6 Material selection and contrast2**
- 7 Enhancements to garments for extra visibility and conspicuity3**
- 8 Site climatic conditions, fatigue and hydration.....3**
 - 8.1 Climatic conditions 3
 - 8.2 Fatigue, hydration 4
- 9 Monitoring of traffic controller safety attire by site supervisors and employers4**
- 10 Traffic controller clothing table.....5**
- 11 Specifications for traffic controller vest and shirt9**
 - 11.1 Traffic controller vest 9
 - 11.2 Traffic controller shirt 10
- Appendix – Illustrations of conforming garments 11**

1 Purpose

This standard specifies the clothing that must be worn by an accredited traffic controller while performing “traffic control functions” in Queensland.

The document is to be read in conjunction with the *Traffic Controller Accreditation Scheme Approved Procedure* (TCASAP), which requires that traffic controllers wear clothing in accordance with this standard. The latest edition of the TCASAP and this standard are available on the TMR website: <http://www.tmr.qld.gov.au>.

The standard provides flexibility by giving traffic controllers a range of clothing options to achieve a high visibility outcome. Clothing should be chosen to achieve a high level of comfort for the traffic controller, taking into account environmental factors and specific worksite requirements. In all cases personal safety of the traffic controller at the site is to be the highest priority consideration.

The document also provides clarity about the application of the standard, including information about the specific circumstances in which accredited traffic controllers are not required to wear clothing that conforms to the specification.

2 Traffic control functions

For the purposes of this standard, traffic control functions include the following activities normally carried out by the accredited traffic controller at a roadwork site, a planned event, or road closure:

- STOP /SLOW traffic control duties on a roadway
- controlling traffic using portable traffic lights
- supervision of trainee traffic controllers in accordance with TCASAP requirements
- communication and reporting of incidents whilst at the roadwork site
- pedestrian management associated with a roadwork activity / road closure.

When undertaking the following duties, the traffic controller may wear either the clothing specified in this standard, or other high visibility clothing that conforms to the *Manual of Uniform Traffic Control Devices* (MUTCD) requirements for road workers:

- assistance given by a traffic controller to undertake site set up duties under supervision of a competent person trained in traffic management implementation
- loading / unloading of traffic control signage and materials from vehicles parked at the site
- driving a pilot traffic control vehicle through a roadwork site.

Note: During site set up procedures it is common for a traffic controller to wear a “sign-up vest” as an alternative to the specified traffic controller vest. This practice is acceptable, providing that the “sign-up vest” is yellow fluorescent Class F and compliant to AS/NZS 4602.1.

It is not mandatory for an accredited traffic controller to wear the specified traffic controller clothing whilst undertaking any duties performed off site.

Traffic control functions should not be performed in close proximity to high temperature road surfacing activities.

3 Breaks from STOP/SLOW duties

A traffic controller is not required to wear the specified traffic controller clothing whilst on a 15 minute break from STOP/SLOW duties, unless undertaking other “traffic control functions” during the break.

4 Periods of darkness

“Periods of darkness” refers to any period where daylight is inadequate such that visibility is adversely affected. This includes night time, dusk or dawn, and in times of inclement weather when there is poor visibility. Typically a motorist would use the headlights of their vehicle to assist their vision and/or recognition in such periods.

When a traffic controller is working in periods/shifts that run between daylight and darkness periods, the garment worn by the traffic controller must be an appropriate garment for periods of darkness.

5 Trainees on site

The specified traffic controller clothing is also applicable to a “trainee” traffic controller who is allocated to the worksite to undertake the practical component of their accreditation training course. This experience is gained under close supervision of an accredited traffic controller.

6 Material selection and contrast

All clothing and accessories worn by traffic controllers must be clean, in good order and not be faded.

Where the Australian Standard referred to in this document has been updated, the latest edition will apply. Therefore, where compliance to an Australian Standard is required, traffic controllers are to wear clothing and materials that conform to the latest edition of that Australian Standard.

The relevant Australian Standards are:

AS/NZS 1906.4	Retro-reflective materials and devices for road traffic control purposes Part 4: High-visibility materials for safety garments
AS/NZS 2210	Safety, protective and occupational footwear
AS/NZS 4602.1	High visibility safety garments Part 1: Garments for high risk applications

- The Australian Standard AS/NZS 1906.4 provides the following classification for high visibility materials according to their day or night-time application:

Class F	High daytime visibility fluorescent material
Class F (W)	High daytime visibility fluorescent material that has met both the requirements for Class F material and an optional wet weather test
Class R	Retro-reflective material for use on garments used in dark conditions
Class RF	Combined performance retro-reflective/fluorescent material meeting all of the requirements of Class R and the daytime colour of Class F
Class NF	High daytime visibility non-fluorescent material

-
- Fluorescent material on traffic controller garments must conform to Class F of AS/NZS 1906.4. [NOTE: The labelling of such garments must clearly state “**CLASS F**”.]
 - Suitable fluorescent colours for traffic controller garments are:
 - “Fluorescent yellow” - includes colours: “yellow”, “yellow-green”, and “lime-yellow”
 - “Fluorescent orange-red” – includes colours: “orange”, “orange-red”, and “red-orange” (but not “red” as it is less visible).

Retro-reflective Class R or RF tape is to conform to Australian Standard AS/NZS 1906.4. Retro-reflective colours are not specified in the standard, and are normally white; red-orange, yellow or silver/grey.

Class R and RF tape strips that are applied to garments must be a minimum of 50 mm wide (or two strips each being 25 mm wide), and may be narrower when applied to head wear and gloves.

Where Class R tape is applied to a garment, the colour of the Class R material must contrast the colour of the remainder of the garment. For example, orange-red tape on a fluorescent yellow vest, or white tape on a fluorescent yellow vest.

7 Enhancements to garments for extra visibility and conspicuity

While this standard specifies the minimum placement and size and of fluorescent and retro-reflective material on traffic controller vests and other garments, consideration should be given to enhancing visibility of garments in accordance with the risk profile of the particular work environment. For example:

- additional Class R tape strips may be applied to shirt sleeves and to trousers at movable joints to create a “biomotion” effect. This has been demonstrated to further enhance visibility and conspicuity of the traffic controller in periods of darkness
- trousers may be made entirely of fluorescent material or have fluorescent material/strips applied to enhance visibility and conspicuity
- fluorescent neck flaps with Class R or RF tape may be added to helmets and hats
- LED illumination on garments, headwear and gloves when worn in periods of darkness.

Mandatory Requirement from 1 July 2016

From 1 July 2016 Class R tape strips to create a “biomotion” (or “biological motion”) effect must be applied to all traffic controller shirts, weatherproof garments, and trousers worn by traffic controllers undertaking traffic control functions in periods of darkness.

Appendix B of AS/NZS 4602.1 provides guidance on the configuration of Class R markers positioned at/around movable joints.

8 Site climatic conditions, fatigue and hydration

8.1 Climatic conditions

Where heat or high humidity are likely to be factors at the site, the traffic controller should take care to ensure adequate hydration, and that cooling packs are prepared in advance of the shift. The traffic controller should have adequate fluids and refreshments on hand at the site. It is suggested that the

garments worn during hot days should allow maximum air flow, be of light weight and be able to accommodate a cooling pack harness if needed.

Traffic controllers should also have appropriate garments on hand at the site to accommodate changing environmental conditions (such as rain occurring) during the course of the shift.

8.2 Fatigue, hydration

Traffic controllers are only authorised to perform traffic control duties if they continue to meet the physical and medical pre-requisites for accreditation, and are not fatigued.

The traffic controller must not attempt to perform traffic control duties while suffering fatigue associated with heat exhaustion.

9 Monitoring of traffic controller safety attire by site supervisors and employers

All employers of traffic controllers and site supervisors should be conversant with the *Traffic Management for Construction or Maintenance Work Code of Practice 2008*. The Code of Practice gives practical advice on how to manage workplace health and safety risks posed by traffic to workers and others while construction or maintenance work is occurring on or adjacent to roads.

Traffic controller employers and site supervisors have an obligation to monitor traffic control stations closely to ensure that the traffic controllers at the site are adequately attired and equipped for the prevailing climatic and site conditions.

Traffic controllers must be made aware of any hazardous road surfacing operations at the site, so that traffic control stations are not placed nearby. Accordingly, this standard does not provide any suitable clothing options for performing stop/slow traffic control duties in close proximity to hot asphalt operations.

No traffic controller is to be placed in an unsafe situation on account of inadequate preparation. (Such as a traffic controller removing their high visibility safety garment in order to achieve the comfort needed to continue to perform stop/slow duties on a very hot day). Traffic controllers must be relieved of their duties at the first sign of fatigue.

10 Traffic controller clothing table

Traffic controller clothing table	Periods of daylight	Periods of darkness	Alternatives/risk assessment/factors to consider
Headwear Note: See variation for wet weather conditions below	Broad brimmed hat with a hatband The hat is made of fluorescent material, or alternatively the hat may have a fluorescent or Class RF hatband. [The hatband is to be at least 35 mm wide] or Cap or Legionnaire style hat made of yellow or orange-red fluorescent material	As per daylight periods <u>plus</u> Any headwear worn must have Class R or RF strips/hatband applied	Consideration should be given to environmental factors and risks at the worksite location in determining which headwear option is most appropriate for traffic controllers. Particular consideration should be given to protection of neck and ears from sun damage A safety helmet is to be worn (day or night) if determined as necessary by risk assessment, or where the worksite supervisor directs this to occur
Sun protection face/head/neck	Refer to Code of Practice for guidance		
Sunglasses	Refer to Code of Practice for guidance		
Vest/Shirt	Fluorescent yellow poncho vest with Class R or RF strips applied or Predominantly fluorescent yellow long sleeve shirt, with or without Class R strips applied or Predominantly fluorescent orange-red long sleeve shirt, with or without Class R strips applied or Predominantly fluorescent yellow and orange-red long sleeve shirt, with or without Class R strips applied	Fluorescent yellow poncho vest with Class R or RF strips applied or Predominantly fluorescent yellow (or a combination of yellow and orange-red) long sleeve shirt with Class R or RF stripes applied If determined as necessary by risk assessment, or where the worksite supervisor directs, an LED illuminated vest set/harness may be worn in addition to, or as an alternative to, the fluorescent vest or shirt	Consideration should be given to environmental factors at the worksite location in choosing the appropriate garment For example, in rural locations where the background vegetation is brown/yellow, the traffic controller should ideally wear a contrasting colour such as the fluorescent orange-red shirt In anticipated circumstances of high heat or humidity, consideration should be given to wearing light weight clothing materials with maximum breathability

Traffic controller clothing table	Periods of daylight	Periods of darkness	Alternatives/risk assessment/factors to consider
	<p>For more details refer to Specifications for traffic controller vest and shirt below. See also Appendix for illustrated examples of conforming vests and shirts.</p> <p><u>ADDITIONAL INFORMATION ABOUT THE WEARING OF VESTS and SHIRTS</u></p> <ul style="list-style-type: none"> • When undertaking STOP/SLOW duties, vest sides must be fastened and long sleeves of the shirt must not be rolled up • While it is preferable for the vest to be worn over a long sleeve high visibility shirt, particularly during periods of low light - there is no requirement in this standard for the shirt that is worn in conjunction with the vest to be fluorescent or high visibility. Undergarments should be selected to achieve the greatest comfort to the traffic controller • During periods of darkness any shirt that is worn in conjunction with the fluorescent vest, must have retro-reflective taping applied in “biomotion” format to the sleeves 		
<p>Traffic Controller identification on upper garment</p>	<p>The following words may be printed in maximum 25 mm high black letters across the front and/or back of the garment:</p> <p>"TRAFFIC CONTROL" or "ACCREDITED TRAFFIC CONTROLLER" or "TRAFFIC CONTROLLER"</p> <p>The letters must be placed at least 25 mm below the Class R strip across the back of the garment, or at least 25 mm below the Class R strip across the chest of the garment</p>	<p>As per daylight periods</p>	<p>As the traffic controller has an authority to direct motorists whereas other road workers do not have this authority, it is good practice for traffic controllers to be distinguished from other road workers at the site. Having the person clearly denoted as a traffic controller is beneficial.</p> <p>In the case of a trainee traffic controller, alternative / additional words such as: "TRAINEE" or "TRAFFIC CONTROLLER TRAINEE" may be printed on the garment</p>
<p>Company identification</p>	<p>The vest or shirt may have the traffic management company name and/or logo printed on the front chest or rear yoke of the garment. The letters are to be no higher than 25 mm. Maximum area size of a logo is 75 square cm</p>	<p>As per daylight periods</p>	<p>It is ideal that the traffic management company responsible for providing traffic control be identified at the site</p>

Traffic controller clothing table	Periods of daylight	Periods of darkness	Alternatives/risk assessment/factors to consider
Trousers	Full length trousers	<p>Full length trousers with Class R or RF material applied</p> <p>The material may take the form of trouser inserts across the leg, or the addition of bowyangs, spats; or gaiters</p> <p>Class R strips are to be applied at/around movable joints on trousers to create a "biomotion" effect. See Appendix B of AS/NZS 4602.1</p>	<p>Trousers may be made of any suitable work wear material (such as high visibility cotton; fluorescent material or a combination of materials). There are no mandatory colours specified for the trousers however the colour chosen should contrast the colour of Class R strips (if applied)</p> <p>Consideration should be given to humidity and heat factors when choosing an appropriate garment</p>
Footwear	Protective boots or shoes complying with Australian Standard AS/NZS 2210. Footwear must have toecaps for foot protection	As per daylight periods	<p>Consideration should be given to environmental factors at the worksite location in choosing the appropriate footwear</p> <p>A factor to consider is the heat at the road surface during hot days, and the potential for the traffic controller to sustain discomfort if the wrong footwear is worn</p> <p>The footwear should allow the traffic controller to move quickly if needed such as when a motorist fails to comply with directions to slow down or stop</p>
Gloves	n/a	Optimum to wear glove on right hand with strip of Class R or RF strip on front and back	A right hand glove is not mandatory but is highly recommended, particularly where the traffic controller is not holding a powered wand or torch with luminous cone
Wand/torch with luminous cone	n/a	See TCASAP	See TCASAP

Traffic controller clothing table	Periods of daylight	Periods of darkness	Alternatives/risk assessment/factors to consider
<p>Outer garments in periods of rain or cold weather</p>	<p>A weatherproof outer garment or long sleeve jacket may be worn. The external faces of the garment must be made of predominantly yellow fluorescent material and have Class R or RF strips applied as per the shirt guidelines. If the garment has a head-cover or hood, the traffic controller is not required to wear a separate hat/cap</p> <p>The following words may be printed in maximum 25 mm high black letters across the front and/or back of the garment:</p> <p>"TRAFFIC CONTROL"</p> <p>or "ACCREDITED TRAFFIC CONTROLLER"</p> <p>or "TRAFFIC CONTROLLER"</p> <p>The letters must be placed at least 25 mm below the Class R strip across the back of the garment, or at least 25 mm below the Class R strip across the chest of the garment</p> <p>For wet weather conditions, trousers may be covered with high visibility weatherproof fluorescent yellow over-trousers with Class R or RF strips. Colour of fluorescent over-trousers must be predominantly yellow</p>	<p>As per daylight periods</p> <p>Class R strips are to be applied at/around movable joints of garments to create a "biomotion" effect. See Appendix B of AS/NZS 4602.1</p>	<p>Consideration should be given to environmental factors at the worksite location in choosing the appropriate outer garments to be worn</p>

11 Specifications for traffic controller vest and shirt

11.1 Traffic controller vest

Colour: Fluorescent yellow

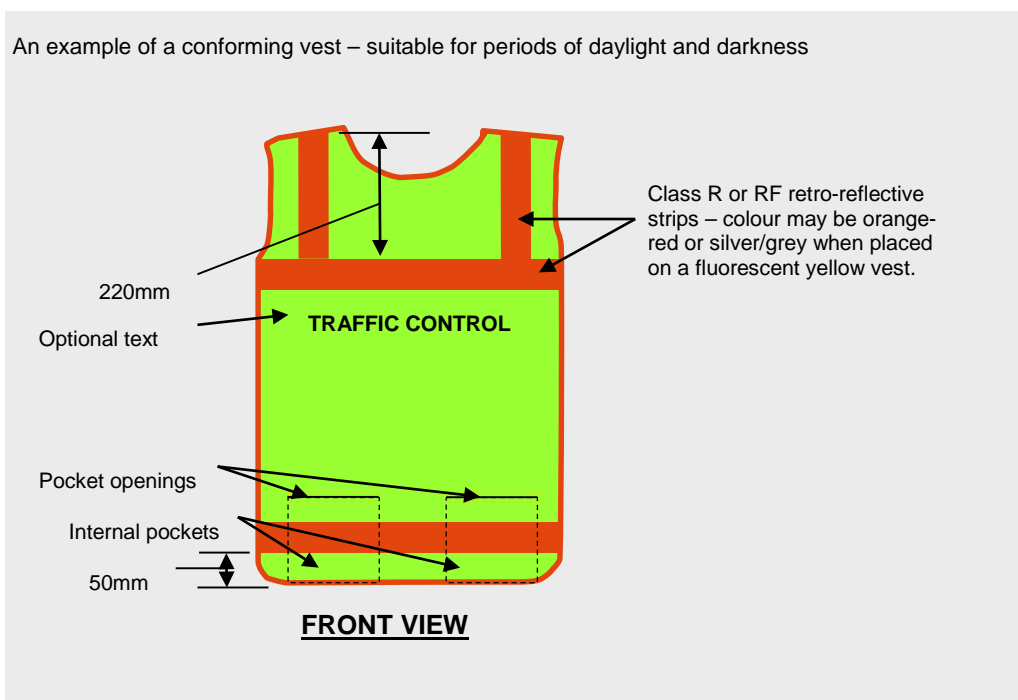
Style: Poncho

Construction:

- exterior surface shall be made from fluorescent fabric to conform to the requirements of Class F in the Australian Standard (AS 1906.4)
- design shall meet the requirements of the Australian Standard for day/night use (AS 4602)
- sufficient inside/outside pockets to meet the needs of the traffic controller
- sufficiently roomy to allow an inside cooling harness to be worn if needed, and to allow airflow between garments.

Placement of retro-reflective strips:

- horizontal Class R strips - two or three strips on both the front and back faces of the vest. One strip is to be located across the base, 50 mm above the bottom of the vest. One horizontal strip is to be located across the mid-chest. The distance between the top of the strip and the top of the shoulder seam is to be between 220 mm and 380 mm
- vertical Class R strips - two strips on both the front and back faces of the vest. The strips may run across the shoulder of the garment connecting to the horizontal mid-chest strips, or may run vertically from the horizontal mid-chest strips to at least 150 mm below the shoulder seam
- **As an alternative to the above any retro-reflective tape configuration that is acceptable under the Australia Standard (AS 4602) is acceptable under this Standard.**



11.2 Traffic controller shirt

Style: Long sleeve fluorescent shirt.

Construction:

- fluorescent material coverage on the sleeves and front and back face of the shirt surface showing fluorescence when worn
- single or multi-layer garment
- collar, and cuffs of the shirt may be made of non-fluorescent material, and may be any colour
- sufficient pockets to meet the needs of the traffic controller.

Colour of fluorescent material:

- The colour and fluorescence shall conform to Class F in the Australian Standard AS 1906.4
- Periods of Daylight: Yellow fluorescent, orange-red fluorescent, or combination of both
- Periods of Darkness: Yellow fluorescent or combination of yellow and orange-red fluorescent.

Placement of Retro-reflective strips:

- The placement of vertical and horizontal strips of the shirt will be in accordance with Australian Standard AS 1906.4.


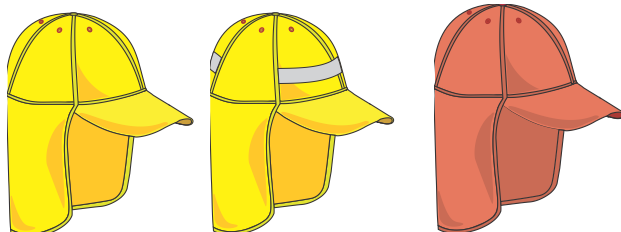
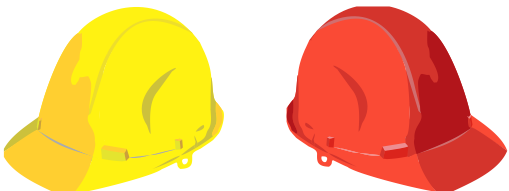
Additional requirement for shirts worn during periods of darkness:

- Class R tape strips to create a “biomotion” effect must be applied to traffic controller shirts when worn as the outer garment during periods of darkness.
- For a long sleeve shirt that is worn under a fluorescent vest, there is no requirement that the shirt be made of high visibility fluorescent material, however the sleeves must have retro-reflective taping applied in “biomotion” format when worn in periods of darkness.

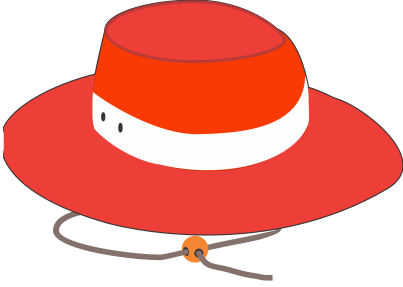
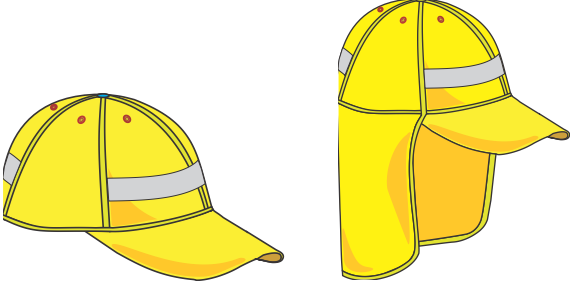
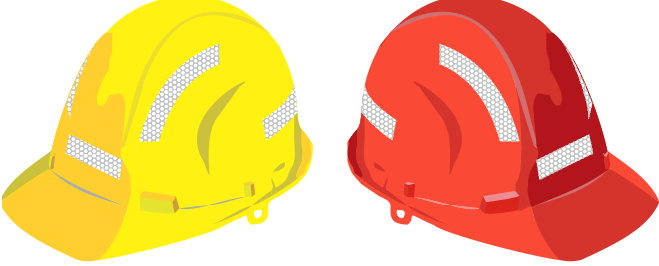
Appendix – Illustrations of conforming garments

The illustrations in the tables below are to be used as a general guide only. There are numerous other examples (not drawn) of garments that would conform to the standard. In all cases please refer to the Traffic controller clothing table and the Specifications for traffic controller vest and shirt when determining if it conforms to the Standard.

Traffic Controller Headwear

Examples of conforming headwear for periods of <u>daylight</u>	
<p><i>Broad brimmed hat with a hatband</i> <i>The hat is made of fluorescent material or alternatively the hat may have a fluorescent or Class RF hatband</i></p>	
<p><i>Cap or Legionnaire style hat made of yellow or orange-red fluorescent material</i> <i>Retro-reflective tape is optional for periods of daylight</i></p>	
<p><i>A safety helmet may be worn if determined as necessary by risk assessment, or where the worksite supervisor directs a helmet to be worn</i></p>	

Examples of conforming headwear for periods of darkness

<p>Broad brimmed hat with a hatband <i>The hat must have both fluorescent and retro-reflective material (on hat and/or hatband/s)</i></p>		<p>OPTIONS TO ENHANCE VISIBILITY:</p> <ul style="list-style-type: none"> • Greater fluorescent material on headwear • Add fluorescent neck flaps with Class R strips • Apply LED lighting to headwear 	
<p>Cap or Legionnaire style hat made of yellow or orange-fluorescent material with Class R or RF tape applied</p>			
<p>A safety helmet may be worn if determined as necessary by risk assessment, or where the worksite supervisor directs a helmet to be worn. Safety helmet must have Class R or RF tape applied</p>		<p>OPTIONS TO ENHANCE VISIBILITY:</p> <ul style="list-style-type: none"> • Add fluorescent neck flaps with Class R strips. • Apply LED lighting to headwear 	

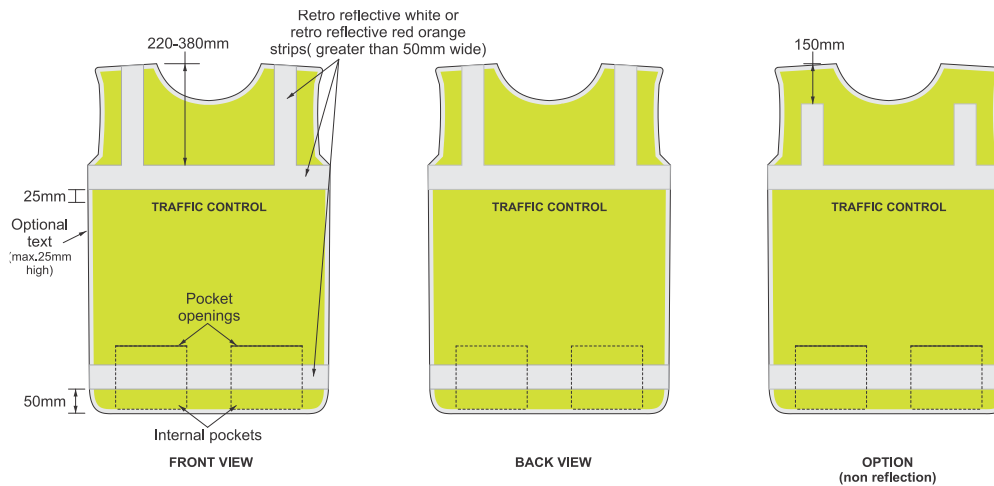
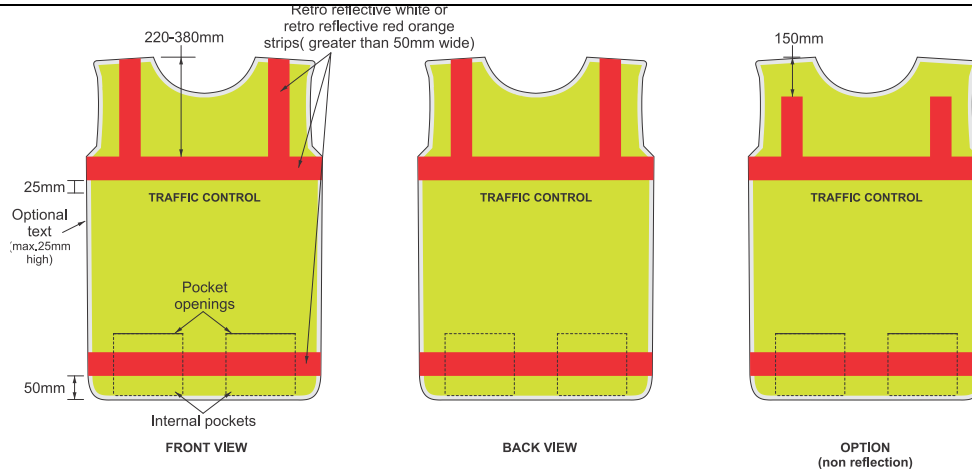
Traffic Controller VEST

Examples of conforming vests for periods of daylight and darkness

Fluorescent yellow poncho vest with Class R or RF tape applied
The colour of the tape must contrast the colour of the vest

OPTIONS TO ENHANCE VISIBILITY:

- Fluorescent material on long sleeves and collar of the shirt worn with the vest
- Apply class R or RF tape to shirt sleeves
- LED illumination In periods of darkness



Traffic Controller SHIRT

Examples of conforming shirts for periods of daylight

Predominantly fluorescent yellow long sleeve shirt, with or without class R or RF tape applied

or

Predominantly fluorescent orange-red long sleeve shirt, with or without class R or RF tape applied

or

Combination of above



Examples of conforming shirts for periods of darkness

Predominantly fluorescent yellow long sleeve shirt with Class R or RF tape applied or

Long sleeve shirt with a combination of predominantly fluorescent yellow and fluorescent orange-red, with Class R or RF tape applied

Retro-reflective strips are to be applied at/around movable joints to create a “biomotion” effect. See Appendix B of AS/NZS 4602.1



OPTIONS TO ENHANCE VISIBILITY:

- Add class R or RF tape at collars and wrists.
- Wear self-lit LED harness over shirt



Traffic Controller TROUSERS

Examples of conforming trousers for periods of daylight

Full length trousers (no colour or material specified)
Where Class R or RF tape is applied it should contrast the colour of the trousers

OPTIONS TO ENHANCE VISIBILITY:

- If the trouser material is not fluorescent, then choose bright hi visibility cotton with colours that contrast the road surface and the background environment at the site
- Greater fluorescent material coverage on trousers



Examples of conforming trousers for periods of darkness

Full length trousers (no colour specified) with Class R or RF material applied.

Retro-reflective strips are to be applied at/around movable joints of trousers to create a “biomotion’ effect. See Appendix B of AS/NZS 4602.1

OPTIONS TO ENHANCE VISIBILITY:

- If the trouser material is not fluorescent, then choose bright hi visibility colours that contrast the road surface and background
- Greater fluorescent material on trousers
- Add class R or RF at hips



The following combinations are acceptable as an alternative to the placement of a retro-reflective strips below the knees on the trousers:

- Fluorescent gaiters with class R tape applied
- Fluorescent bowyangs with class R tape applied
- Fluorescent spats with class R tape applied.



Traffic Controller WEATHER PROOF GARMENTS

Examples of conforming weatherproof garments for periods of daylight and darkness

A weatherproof outer garment or long sleeve jacket may be worn. The external faces of the garment must be made of predominantly yellow fluorescent material and have Class R or RF tape applied as per the shirt guidelines. If the garment has a head-cover or hood, the traffic controller is not required to wear a separate hat/cap

For wet weather conditions, trousers may be covered with high visibility weatherproof fluorescent yellow over-trousers with Class R or RF retro-reflective strips applied

NOTE: From 1 July 2016 retro-reflective strips are to be applied at/around movable joints of garment to create a "biomotion" effect. See Appendix B of AS/NZS 4602.1



Examples - Traffic controllers attired for periods of daylight

There is a multitude of combinations that meet the standard. In all cases there must be fluorescent coverage in an upper garment. Optimum wear for highest visibility is all fluorescent clothing with retro-reflective tape on all garments and headwear.



Daylight wear shirts (when worn without a fluorescent vest) must be predominantly fluorescent yellow, fluorescent orange-red, or a combination of both.



Examples - traffic controllers attired for periods of darkness

There is a multitude of combinations that meet the standard for periods of darkness. In all cases there must be yellow fluorescent coverage on the upper garment. Retro-reflective tape is mandatory for periods of darkness on headwear and on upper and lower garments, and on shirt sleeves above and below the elbow.



Periods of darkness: Traffic controller shirts (when worn as an outer garment, that is, without a fluorescent vest) must be predominantly fluorescent yellow, or a combination of fluorescent yellow and orange-red. Retro-reflective tape is mandatory.



OPTIONS TO ENHANCE VISIBILITY FOR PERIODS OF DARKNESS:

- Application of additional retro-reflective tape on garments at wrists, neck flaps / collars, and hips to enhance the “biomotion” effect
- LED illuminated vest set harness/LED illumination on garments, headwear and gloves.

[NOTE: The use of a torch fitted with a luminous cone attachment or an illuminated wand is often standard kit for night duties (See TCASAP)]

