



EN ISO 20471 HIGH VISIBILITY

This is an international standard that specifies requirements for high visibility clothing, which is capable of visually signalling the user's presence.

The high visibility clothing is intended to provide conspicuity of the wearer in any light condition when viewed by operator of vehicles or other mechanized equipment during daylight and under illumination of headlights in the dark.

GARMENT CLASS

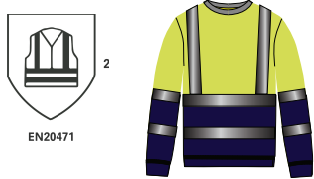
The standard is divided into three classes, related to the risk which the worker is exposed. Each class is determined by the amount of fluorescent material which provides visibility for the day time, and the amount of reflective material which provides visibility in the night time, in accordance with the below table.

RISK LEVEL	FACTORS RELATED TO THE RISK LEVEL		TYPICAL USED INDUSTRIES	MATERIAL	
	VEHICLE SPEED	TYPE OF USER		BACKGROUND MATERIAL (FLURO)	REFLECTIVE MATERIAL (TAPE)
HIGH ISO EN 20471 CLASS 3	>60KM/H	PASSIVE	Highway operators, track workers, first responders, airport operators, etc.	0,80m2	0,20m2
INTERMEDIATE ISO EN 20471 CLASS 2	≤60KM/H	PASSIVE	Public road operators, delivery personnel, road surveyors, traffic command	0,50m2	0,13m2
MINIMUM ISO EN 20471 CLASS 1	≤30KM/H	PASSIVE	Parking lots, service areas, warehouses and factory road operators	0,14m2	0,10m2

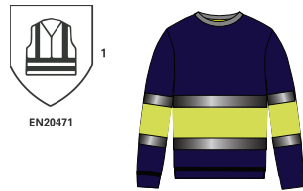
EXAMPLES OF HOW EACH CLASS TRANSLATES TO A GARMENT



CLASS 3: HIGHEST LEVEL
Highest level of protection - required for any persons working on or near motorways, dual-carriage ways or airports.



CLASS 2: INTERMEDIATE LEVEL
Required for any persons working on or near A and B class roads, also for delivery drivers.



CLASS 1: MINIMUM LEVEL
Minimum level of protection required for any persons working on a private road or to be used in conjunction with a higher classed garment.

BACKGROUND COLOUR MATERIALS



PRINTING GUIDE FOR HIGH VISIBILITY GARMENTS

Branding high visibility clothing as a work uniform, is a highly beneficial way of promoting your company on site and distinguishing employees from other companies. However, logos cover the fluorescent background material, so the logo area is deducted from the minimum surface area calculation.

This is something to be mindful of before customising your high visibility garment. This will ensure the employees/ end users are not wearing a non-compliant garment.

For that reason we created the following list with the amount of surface area available for printing for all Regatta Professional Hi-Vis styles.

EXAMPLE: TRS195



AREA AVAILABLE: 0.03M² (FOR CENTIMETRES, MULTIPLY BY 10000)=300CM²

Option 1= (10cm x 10cm chest logo) + (10cm X 20cm back logo)

Option 2= 15cm x 20cm back logo

=300 cm²



STYLE CODE	STYLE NAME	STANDARD/CLASS	SIZE TEST-	BACKGROUND MATERIAL (m²)	AREA AVAILABLE FOR LOGOS	REFLECTIVE MATERIAL (m²)	DISTANCE BETWEEN SHOULDER TAPE
TRA340	TACTICAL HIVIS JACKET	EN20471 Class 2 RIS-3279 TOM ISSUE 2	S	0.93	0.43	0.18	N/A
TRA316	TACTICAL HIVIS BOMBER JACKET	EN20471 Class 2 RIS-3279 TOM ISSUE 2	S	0.91	0.41	0.19	N/A
TRW505	HIVIS PRO OVER TROUSER	EN20471 Class 1 EN343 CLASS 3"	S	0.96	0.82	0.10	N/A
TRW497	HI VIS PRO PACKAWAY JACKET	EN20471 Class 3 RIS-3279 TOM ISSUE 2 EN343 CLASS 3:2	S	0.97	0.17	0.22	N/A
TRW498	HI VIS PRO PACKAWAY TROUSERS	EN20471 Class 2 RIS-3279 TOM ISSUE 2 EN343 CLASS 3:2	S	0.76	0.26	0.13	N/A
TRA625	PRO HI VIS 3 LAYER SOFTSHELL	EN20471 Class 2 RIS-3279 TOM ISSUE 2	S	0.64	0.14	0.17	N/A
TRA840	HIVIS PRO BODYWARMER	EN20471 Class 2 RIS-3279 TOM ISSUE 2	S	0.52	0.02	0.13	N/A
TRS189	PRO HI VIS POLO	EN20471 Class 2 RIS-3279 TOM ISSUE 2	S	0.59	0.09	0.17	24cm
TRS176	TATICAL HI VIS POLO SHIRT	EN20471 Class 2 RIS-3279 TOM ISSUE 2	S	0.60	0.10	0.10	N/A
TRA220	PRO HI VIS THERMOGEN HEATED	EN20471 Class 2 RIS-3279 TOM ISSUE 2 EN343 CLASS 3	S	0.75	0.25	0.20	N/A
TRA218	PRO HI VIS CLASSIC BOMBER JACKET	EN20471 Class 2 RIS-3279 TOM ISSUE 2 EN343 CLASS 3	S	0.59	0.09	0.16	N/A
TRA219	PRO INSULATED PARKA	EN20471 Class 2 RIS-3279 TOM ISSUE 2 EN343 CLASS 3	S	0.70	0.20	0.17	N/A
TRA158	PRO HI VIS 3 IN 1 JACKET	EN20471 Class 2 RIS-3279 TOM ISSUE 2 EN343 CLASS 3	S	1.04	0.54	0.17	N/A
TRA483	PRO HI VIS THERMAL JACKET	EN20471 Class 2 RIS-3279 TOM ISSUE 2	S	0.68	0.18	0.17	N/A
TRA871	PRO HI VIS THERMAL BODYWARMER	EN20471 Class 1	S	0.36	0.22	0.10	N/A
TRA722	PRO HIVIS SOFTSHELL JKT	EN20471 Class 2 RIS-3279 TOM ISSUE 2	S	0.62	0.12	0.17	N/A
TRF660	PRO HIVIS H/Z FLEECE TOP	EN20471 Class 2 RIS-3279 TOM ISSUE 2	S	0.61	0.11	0.17	N/A
TRF655	PRO HIVIS 250 FLEECE	EN20471 Class 2 RIS-3279 TOM ISSUE 2	S	0.63	0.13	0.17	N/A
TRF625	PRO HI VIS F/Z HOODIE	EN20471 Class 2 RIS-3279 TOM ISSUE 2	S	0.51	0.01	0.17	N/A
TRF656	PRO HI VIS SWEAT TOP	EN20471 Class 2 RIS-3279 TOM ISSUE 2	S	0.67	0.17	0.17	N/A
TRF663	PRO HI VIS O/H HOODY	EN20471 Class 2 RIS-3279 TOM ISSUE 2	S	0.53	0.03	0.17	N/A
TRJ503	PRO HI VIS JOGGERS	EN20471 Class 1	S	0.43	0.29	0.10	N/A
TRS192	PRO HI VIS L/S POLO SHIRT	EN20471 Class 2 RIS-3279 TOM ISSUE 2	S	0.78	0.28	0.23	24cm
TRS194	PRO HI VIS POLO SHIRT	EN20471 Class 2 RIS-3279 TOM ISSUE 2	S	0.57	0.07	0.16	24cm
TRS195	PRO HIVIS VEST	EN20471 Class 2 RIS-3279 TOM ISSUE 2	XS	0.53	0.03	0.16	22cm
TRS199	2 TONE VEST	EN20471 CLASS 1	S	0.23	0.09	0.14	22cm
TRS251	PRO EXECUTIVE VEST	EN20471 Class 1	S	0.24	0.10	0.18	21cm
		EN20471 Class 2	S	0.51	0.01	0.18	21cm
TRS254	PRO SUPERVISOR VEST CLASS 2	EN20471 Class 2	S	0.57	0.07	0.17	21cm
TRS255	TWO BANDS EASY PRINT VEST CLASS	EN20471 Class 2	S	0.61	0.11	0.14	N/A
TRS257	PRO COLLAR ZIP VEST- CLASS 1 & 2	EN20471 Class 1	S	0.25	0.11	0.17	21cm
		EN20471 Class 2	S	0.53	0.03	0.17	21cm
TRJ524	HI-VIS CARGO TROUSERS	EN20471 CLASS 1	28"	0.74	0.60	0.11	N/A
TRF670	ZIP SWEAT TOP	EN20471 CLASS 2	S	0.52	0.02	0.18	N/A
TRJ523	"PRO HI VIS INSULATED OVERTROUSER"	EN20471 Class 2 RIS-3279 TOM ISSUE 2	S	0.85	0.35	0.16	N/A
TRS250	PRO JUNIOR VEST	ENI7535 Class AB3	3-4yrs	0.16	0.02	0.12	14cm
			9-10yrs	0.27	0.03	0.15	
TRS260	PRO JUNIOR TABARD	ENI7535 Class AB3	3-4yrs	0.16	0.02	0.08	19cm
			9-10yrs	0.29	0.05	0.10	

EN 17353: 2020

MEDIUM RISK VISIBILITY

This standard specifies requirements for enhanced visibility in the form of garments, or devices, which are capable of signalling the user's presence. The enhanced visibility equipment is intended to provide more conspicuous visibility of the wearer in medium risk situations under any daylight conditions and/or under illumination by vehicles headlights or searchlights in the dark.

The standard covers a wider colour spectrum compared to EN 20471. It also describes the design requirements for various types of products based on the foreseeable conditions of use by Type "A", "B" and "AB".

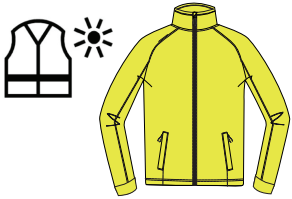
MINIMUM REQUIRED AREAS OF MATERIAL IN M² FOR TYPES B1 AND B2

	B1 ^a	B2 ^b	^a Total area of both sides of a single devise.
RETROREFLECTIVE MATERIAL	0,003	0,018	^b If devises total the area of two devises measured flat.

MINIMUM REQUIRED AREAS OF MATERIAL IN M² FOR TYPES A, B3 AND AB

	A	B3	AB	A	B3	AB
HEIGHT OF THE USER	H<140CM ^a			H>140CM ^a		
FLUORESCENT MATERIAL	0,14	-	0,14	0,24	-	0,24
REFLECTIVE MATERIAL	-	0,06	0,06	-	0,08	0,08
COMBINED PERFORMANCE MATERIAL	-	-	0,14	-	-	0,24

TYPES



TYPE A
DAYLIGHT
Equipment using
fluorescent material



TYPE B
DARK CONDITIONS
Equipment using
retroreflective material
B1 (free hanging)
B2 (limbs)
B3 (torso or torso and limbs)



TYPE AB
DAYLIGHT, TWILIGHT AND DARK
CONDITIONS
Equipment using fluoresecent
and retroreflective or
combined performance
material
AB2 (limbs)
AB3 (torso or torso and limbs)

YELLOW/GREEN

YELLOW

YELLOW/ORANGE

ORANGE

BACKGROUND COLOUR MATERIALS

ORANGE/RED

RED

PINK



EN 343: 2019

PROTECTION AGAINST RAIN

EN343 is the European Standard that specifies requirements and test methods applicable to the materials and seams of protective clothing against the influence of precipitation (e.g. rain, snow, fog and ground humidity). Waterproofness and Water vapour resistance (breathability) are the essential properties tested.

WHAT DOES EACH CLASS MEAN?



EN343

- Y Resistance to water penetration class (waterproofness)
- Y Water vapour resistance class (breathability)
- R Readymade garment rain tower test (optional)*

* X Is the value given if the product has not been subjected to this test.

CLASS	RESISTANCE TO WATER PENETRATION	BREATHABILITY
1	Minimum level of rain protection	Not classified as breathable under EN343
2	Intermediate rain protection	Intermediate level of breathability
3	Very good rain protection	Very good level of breathability
4	Highest level of rain protection	Highest level of breathability



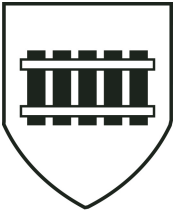
RIS-3279-TOM: HIGH VISIBILITY- UK RAILWAYS

RIS-3279-TOM is a UK railway standard based on EN ISO 20471, with two key specific requirements:

Class
The standard requires garments to meet at least class 2 of EN ISO 20471 for the minimum area of high visibility materials used within a garment.

Background material
While EN 20471 allows use of three different fluorescent background colours: yellow, orange-red and red, RIS-3279-TOM:2019 standard specifies fluorescent **orange colour only**.

This is to make sure train drivers do not confuse workers near the tracks with yellow signals. The orange colour requirements are also more precise, in order to restrict the colour variance, and ensure a higher chromaticity level (colour intensity) and guarantee a more vibrant and luminous orange.



RIS-3279-TOM

CLOTHING MUST MEET AT LEAST CLASS 2 OF EN 20471

MATERIAL	CLASS 3	CLASS 2
BACKGROUND MATERIAL (FLURO ORANGE)	0,80M2	0,50M2
REFLECTIVE MATERIAL (TAPE)	0,20M2	0,13M2



TRW497
EN 20471 CLASS 3
RIS-3279-TOM



TRW498
EN 20471 CLASS 3
RIS-3279-TOM



TRA158
EN 20471 CLASS 2
RIS-3279-TOM



TRJ523
EN 20471 CLASS 2
RIS-3279-TOM

