

Test mark:	11924-ECS-18
Type:	Safety faceshield, visor FC73 + chinguard C3 + browguard B1

Measurement report 4

Description of the type

Design:		
		
Dimensions: a / mm: 222 b / mm: 189 c / mm: 393		
Middle thickness of the visor: 1.0 ± 0.05 mm		
Vertex power / dpt: Front surface: horizontal: +4.5 – vertical: 0.0 Back surface: horizontal: - 5.3 – vertical: -0.3		
Visor:	Identification mark:	Clear visor made of polycarbonate with yellow plastic Chinguard assembled on Browguard B1 BLUE EAGLE 1B CE CAN/CSA Z 94.3 ANSI Z87+ FACESHIELD VISOR 7"x15½"x1.0mm CLEAR POLYCARBONATE MODEL NO. FC73
	Material:	Polycarbonate
Chinguard:	Identification mark:	CE EN166 CAN/CSA Z94.3 ANSI Z87 CE MADE IN TAIWAN
	Material:	ABS, yellow coloured
Browguard:	Identification mark:	EN166-B CE BLUE EAGLE MADE IN TAIWAN
	Material:	ABS, yellow coloured
Information brochure / instruction manual		available and complete

Test mark:	11924-ECS-18
Type:	Safety faceshield, visor FC73 + chinguard C3 + browguard B1

Quality of material and surface, refractive powers, prism imbalance, diffusion of light, transmission

test ↓		sample →		18192					
				-98	-99	-100	-101	-102	-103
quality of material and surface				+	+	+	+	+	+
field of vision				+	+	+	+	+	+
side protection				+	+	+	+	+	+
face protection				+	+	+	+	+	+
spherical refractive power	R	dpt	-0.03	-0.03	-0.02	-0.03	-0.01	-0.03	
	L		-0.02	-0.02	-0.03	-0.02	-0.01	-0.02	
astigmatic refractive power	R	dpt	0.02	0.03	0.02	0.01	0.02	0.04	
	L		0.02	0.03	0.02	0.02	0.02	0.04	
prism imbalance (horizontal / vertical)		cm/m	BO 0.15 / 0.00	BO 0.15 / 0.00	BO 0.15 / 0.00	BO 0.13 / 0.00	BO 0.15 / 0.00	BO 0.23 / 0.00	
optical class			1	1	1	1	1	1	
reduced luminance coefficient, diffusion of light	R	$\frac{\text{cd/m}^2}{\text{lx}}$	0.28	0.05	0.12	0.03	0.04	0.16	
	L		0.11	0.17	0.25	0.05	0.08	0.10	
luminous transmittance rel NA τ		%	88.6	88.6	88.5	88.7	88.6	88.5	
luminous transmittance rel D65 τ		%	88.6	88.6	88.5	88.7	88.6	88.5	

Test mark:	11924-ECS-18
Type:	Safety faceshield, visor FC73 + chinguard C3 + browguard B1

Filtering action for UV-filter
EN 170

test ↓ sample →		18192					
		-98	-99	-100	-101	-102	-103
luminous transmittance rel NA τ	%	88.6	88.6	88.5	88.7	88.6	88.5
transmission 210 nm $\leq \lambda \leq$ 313 nm	%	$> 3 \cdot 10^{-4}$	$> 3 \cdot 10^{-4}$	$> 3 \cdot 10^{-4}$	$> 3 \cdot 10^{-4}$	$> 3 \cdot 10^{-4}$	$> 3 \cdot 10^{-4}$
transmission 313 nm $< \lambda \leq$ 365 nm	%	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10
transmission 365 nm $< \lambda \leq$ 405 nm	%	$\leq \tau$	$\leq \tau$	$\leq \tau$	$\leq \tau$	$\leq \tau$	$\leq \tau$
transmission 500 nm $\leq \lambda \leq$ 650 nm	%	$\geq 0.2\tau$	$\geq 0.2\tau$	$\geq 0.2\tau$	$\geq 0.2\tau$	$\geq 0.2\tau$	$\geq 0.2\tau$
recognition of signal lights: blue, green, yellow, red		+	+	+	+	+	+
shade number UV-filter		no UV-filtering action					

Test mark:	11924-ECS-18
Type:	Safety faceshield, visor FC73 + chinguard C3 + browguard B1

Quality of material and surface, refractive powers after test to thermal ageing

test ↓		sample →		
		18192		
		-98	-99	-100
quality of material and surface		no visible surface modification after thermal ageing		
spherical power	dpt	0.00	0.00	-0.01
astigmatic power	dpt	0.00	0.00	0.00
prismatic power / prism imbalance (horizontal/vertical)	cm/m	0.0 / 0.0	0.0 / 0.0	0.0 / 0.0

Quality of material and surface, diffusion of light, transmission after test to UV ageing

test ↓		sample →		
		18192		
		-101	-102	-103
quality of material and surface		no visible surface modification or coating depletion after UV ageing or after breathing on the surface, slight yellow color		
reduced luminance coefficient, diffusion of light	$\frac{\text{cd/m}^2}{\text{lx}}$	0.02	0.02	0.03
luminous transmittance rel NA τ	%	88.0	88.1	87.9
relative change	%	0.7	0.5	0.7

Test mark:	11924-ECS-18
Type:	Safety faceshield, visor FC73 + chinguard C3 + browguard B1

Increased robustness

sample ↓	test →	test temperature / °C	test point	results
18192-104		-5	2 * frontal	+ +
18192-105		-5	2 * frontal	+ +
18192-106		-5	2 * frontal	+ +
18192-107		-5	2 * frontal	+ +
18192-108		-5	2 * frontal	+ +
18192-109		-5	2 * frontal	+ +
18192-110		+55	2 * frontal	+ +
18192-111		+55	2 * frontal	+ +
18192-112		+55	2 * frontal	+ +
18192-113		+55	2 * frontal	+ +
18192-114		+55	2 * frontal	+ +
18192-115		+55	2 * frontal	+ +

Test mark:	11924-ECS-18
Type:	Safety faceshield, visor FC73 + chinguard C3 + browguard B1

Protection against high-speed particles / resistance to medium energy impact at extremes of temperature

sample ↓	test →	test temperature / °C	test point	speed / m/s	results
18192-116		-5	left frontal, right side	≥ 120	+ +
18192-117		-5	left frontal, right side	≥ 120	+ +
18192-118		-5	right frontal, left side	≥ 120	+ +
18192-119		-5	right frontal, left side	≥ 120	+ +
18192-120		-5	right frontal, left side	≥ 120	+ +
18192-121		-5	left frontal, right side	≥ 120	+ +
18192-122		+55	left frontal, right side	≥ 120	+ +
18192-123		+55	left frontal, right side	≥ 120	+ +
18192-124		+55	right frontal, left side	≥ 120	+ +
18192-125		+55	right frontal, left side	≥ 120	+ +
18192-126		+55	right frontal, left side	≥ 120	+ +
18192-127		+55	left frontal, right side	≥ 120	+ +

Test mark:	11924-ECS-18
Type:	Safety faceshield, visor FC73 + chinguard C3 + browguard B1

Resistance to ignition

test ↓	sample →	18192		
		-107	-108	-109
flammability	temperature ≥ 650 °C no ignition, no further glowing			

Resistance to corrosion

test ↓	sample →	18192		
		-104	-105	-106
corrosion	no bare metal parts			

Protection against splashes of liquids

test ↓	sample →	18192		
		-98 to -127		
protection against splashes of liquids for face shield / visor	+			

– End of Measurement Report 4 –