



AFCAT HI-VIS GLOVES

AFS-1116



TECHNICAL DATA SHEET

PRODUCT DESCRIPTION

AFCAT's Hi-Vis gloves ensure maximum visibility in low-light conditions for heightened safety on the job. Designed with a 13-gauge construction for superior dexterity and flexibility, these gloves feature a nitrile sandy textured coated palm for exceptional breathability and grip. They also provide excellent prevention of chemical exposure, such as MDI.

MATERIAL COMPOSITION

Palm: Black Foam Sandy Nitrile

Back: Yellow Polyester

Cuff: Polyester

Cuff Binding: Polyester

GLOVES DESIGN & CONSTRUCTION

The protective glove shall be designed and manufactured so that in the foreseeable conditions of use, the wearer can perform the activity as normally as possible with appropriate protection. This document along with the appropriate specific standards shall be used to verify this adequation. If required in the relevant specific standard (For example ISO 16073:2011, 5.7.3), The glove shall be designed to minimize the donning and doffing time.

GLOVE LENGTH

Size	Length
6	214 mm
7	222 mm
8	230 mm
9	243 mm
10	246 mm
11	254 mm

DEXTERITY

Performance Level for AFCAT Hi-Vis Gloves: Level 5

Level of Performance	Smallest Diameter of Pin Fulfilling Test Conditions
Level 1	11 mm
Level 2	9.5 mm
Level 3	8 mm
Level 4	6.5 mm

Level 5	5 mm
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ABRASION RESISTANCE - EN 388

Adhesion contact time of test specimen with the double-sided adhesive tape under a weight of approximately 10 Kg	5 min
Surface treatment of test specimen to improve adhesion	No surface treatment
Abradant	The Klingspor PL 31 B-Grit 180 Grain Aluminum Oxide
Double-Sided Adhesive Tape	3M Double-Sided Adhesive Tape

Observation	Specimen 1	Specimen 2	Specimen 3	Specimen 4
After 100 Cycles	No Breakthrough	No Breakthrough	No Breakthrough	No Breakthrough
After 500 Cycles	No Breakthrough	No Breakthrough	No Breakthrough	No Breakthrough
After 2000 Cycles	No Breakthrough	No Breakthrough	No Breakthrough	No Breakthrough
After 8000 Cycles	No Breakthrough	No Breakthrough	No Breakthrough	No Breakthrough

Performance Level: 4

BLADE CUT RESISTANCE

Pretreatment Of Test Specimen Before Testing: No Pretreatment

(A)

Specimen 1				
Sequence	Control Specimen Cn	Test Specimen Tn	Control Specimen Cn+1	Cut Index In
1	1.4	0.7	1.7	1.5
2	1.7	1.3	1.7	1.8
3	1.7	0.7	1.7	1.4
4	1.7	0.9	2.7	1.4
5	1.2	0.7	1.4	1.5
Average	1.5			
Specimen 2				
Sequence	Control Specimen Cn	Test Specimen Tn	Control Specimen Cn+1	Cut Index In
1	1.2	0.8	1.8	1.5
2	1.8	0.8	1.8	1.4
3	1.8	0.8	1.8	1.4
4	1.8	1.3	2.3	1.6
5	1.0	0.7	1.5	1.6
Average	1.5			
The Lowest Average Index of 2 Specimens		1.5		
Performance Level (*)		1		

Remark:

The Minimum Requirements for Each Level:

Level 1: 1.2

Level 2: 2.5

Level 3: 5.0

Level 4: 10.0

Level 5: 20.0

* = The Performance Level is Defined as the Lowest Average Index Values of Two Test Specimens from The Different Gloves.

RESISTANCE TO CUTTING BY SHARP OBJECTS

(BS EN 388: 2016+A1:2018 / EN 388:2016+A1:2018, 6.3 & EN ISO 13997:1999)

Test Condition	Temperature 20°C; Relative Humidity 65%
Test Area	Glove Palm
Blade Sharpness Correction Factor(s)	0.90

Result	
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Normalized Cutting Stroke Length	-
Cutting Force (*)	NA (#1)
Performance Level (*1)	-

* = Calculated force that would be required to be applied to a blade of standard sharpness to just cut through a material in a blade stroke of length 20 mm.

*1 = Levels of Performance for Materials Tested with EN ISO 13997

	Level A	Level B	Level C	Level D	Level E	Level F
6.3 TDM: Cut Resistance (N)	2	5	10	15	22	30

NA = Test Not Performed

#1 = In Blade cut Resistance Test, test specimens did not dull the blade to specified degree. There is no need for the EN ISO 13997:1999 Cut Resistance Method.

TEAR RESISTANCE

Test Area: Glove palm

Performance Level(*): 3

The Minimum Requirements for Each Level:

Level 1: 10 N

Level 2: 25 N

Level 3: 50 N

Level 4: 75 N

* = The performance level is defined by taking the lowest of the four values.

PUNCTURE RESISTANCE

(BS EN 388: 2016+A1:2018 / EN 388:2016+A1:2018, 6.5)

Specimen 1	44 N
Specimen 2	32 N
Specimen 3	32 N
Specimen 4	40 N
Performance Level (*)	1

Level 1: 20 N

Level 2: 60 N

Level 3: 100 N

Level 4: 150 N

Remark: * = The performance level is defined by the lowest value of the four test specimens.

AZO COLORANTS CONTENT

With reference to test method: Textile Method (ISO 14362-1: 2017);

Amines content was determined by gas chromatography-mass spectrometry (GC-MS)

	Forbidden Amine	CAS No.	Result (mg/kg); Method T			
			(8)	(9)	(10)	(11)
1	4-Aminodiphenyl	92-67-1	<5	<5	<5	<5
2	Benzidine	92-87-5	<5	<5	<5	<5
3	4-Chloro-o-toluidine	95-69-2	<5	<5	<5	<5
4	2-Naphthylamine	91-59-8	<5	<5	<5	<5
5	o-Aminoazotoluene	97-56-3	<5	<5	<5	<5
6	2-Amino-4-nitrotoluene	99-55-8	<5	<5	<5	<5
7	p-Chloroaniline	106-47-8	<5	<5	<5	<5
8	2,4-Diaminoanisole	615-05-4	<5	<5	<5	<5
9	4,4'-Diaminodiphenylmethane	101-77-9	<5	<5	<5	<5
10	3,3'-Dichlorobenzidine	91-94-1	<5	<5	<5	<5
11	3,3'-Dimethoxybenzidine	119-90-4	<5	<5	<5	<5

12	3,3'-Dimethylbenzidine	119-93-7	<5	<5	<5	<5
13	3,3'-Dimethyl- 4,4'diaminodiphenylmethane	838-88-0	<5	<5	<5	<5
14	p-Cresidine	120-71-8	<5	<5	<5	<5
15	4,4'-Methylene-bis(2-chloroaniline)	101-14-4	<5	<5	<5	<5
16	4,4'-Oxydianiline	101-80-4	<5	<5	<5	<5
17	4,4'-Thiodianiline	139-65-1	<5	<5	<5	<5
18	o-Toluidine	95-53-4	<5	<5	<5	<5
19	2,4-Toluylenediamine	95-80-7	<5	<5	<5	<5
20	2,4,5-Trimethylaniline	137-17-7	<5	<5	<5	<5
21	o-Anisidine	90-04-0	<5	<5	<5	<5
22	4-Aminoazobenzene	60-09-3	<5	<5	<5	<5

	Forbidden Amine	CAS No.	Result (mg/kg); Method D								
			(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	4-Aminodiphenyl	92-67-1	<5	<5	<5	<5	<5	<5	<5	<5	<5
2	Benzidine	92-87-5	<5	<5	<5	<5	<5	<5	<5	<5	<5
3	4-Chloro-o-toluidine	95-69-2	<5	<5	<5	<5	<5	<5	<5	<5	<5
4	2-Naphthylamine	91-59-8	<5	<5	<5	<5	<5	<5	<5	<5	<5
5	o-Aminoazotoluene	97-56-3	<5	<5	<5	<5	<5	<5	<5	<5	<5
6	2-Amino-4-nitrotoluene	99-55-8	<5	<5	<5	<5	<5	<5	<5	<5	<5
7	p-Chloroaniline	106-47-8	<5	<5	<5	<5	<5	<5	<5	<5	<5
8	2,4-Diaminoanisole	615-05-4	<5	<5	<5	<5	<5	<5	<5	<5	<5
9	4,4'-Diaminodiphenylmethane	101-77-9	<5	<5	<5	<5	<5	<5	<5	<5	<5
10	3,3'-Dichlorobenzidine	91-94-1	<5	<5	<5	<5	<5	<5	<5	<5	<5
11	3,3'-Dimethoxybenzidine	119-90-4	<5	<5	<5	<5	<5	<5	<5	<5	<5
12	3,3'-Dimethylbenzidine	119-93-7	<5	<5	<5	<5	<5	<5	<5	<5	<5
13	3,3'-Dimethyl-4,4'diaminodiphenylmethane	838-88-0	<5	<5	<5	<5	<5	<5	<5	<5	<5
14	p-Cresidine	120-71-8	<5	<5	<5	<5	<5	<5	<5	<5	<5
15	4,4'-Methylene-bis(2-chloroaniline)	101-14-4	<5	<5	<5	<5	<5	<5	<5	<5	<5
16	4,4'-Oxydianiline	101-80-4	<5	<5	<5	<5	<5	<5	<5	<5	<5
17	4,4'-Thiodianiline	139-65-1	<5	<5	<5	<5	<5	<5	<5	<5	<5
18	o-Toluidine	95-53-4	<5	<5	<5	<5	<5	<5	<5	<5	<5
19	2,4-Toluylenediamine	95-80-7	<5	<5	<5	<5	<5	<5	<5	<5	<5
20	2,4,5-Trimethylaniline	137-17-7	<5	<5	<5	<5	<5	<5	<5	<5	<5
21	o-Anisidine	90-04-0	<5	<5	<5	<5	<5	<5	<5	<5	<5
22	4-Aminoazobenzene	60-09-3	<5	<5	<5	<5	<5	<5	<5	<5	<5

Requirement = 30 mg/kg

Reporting limit = 5 mg/kg

Method T: Direct buffer extraction as per ISO 14362-1: 2017 Section 10.2

Method D: Colorant extraction with Xylene as per ISO 14362-1: 2017 Section 10.1

Conclusion:

Standard	Result
BS EN ISO 21420: 2020 Protective Gloves – General requirements and test methods- Azo Colorants Content	Pass

PH VALUE

AS Per BS EN ISO 21420: 2020, 4.2, With Reference To BS EN ISO 3071:2020 For Textile, Potassium Chloride (KCl) Solution Extracted, pH Value Was Measured By pH Meter.

Tested Sample/Component	Result	Requirement's
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(1)	6.6	*
(2)	6.6	*
(3)	6.5	*
(4)	6.3	*
(5)	6.1	*
(6)	6.1	*
(7)	6.2	*
(8)	6.2	*
(9)	6.2	*
(10)	6.2	*
(11)	6.1	*
(12)	6.1	

Temperature of the extracting solution: 23.8 °C

pH of the extracting solution: 5.92

Remark: * = The pH value shall be greater than 3.5 and less than 9.5.

Conclusion:

Standard	Result
BS EN ISO 21420: 2020 For pH Value	Pass

POLYCYCLIC AROMATIC HYDROCARBONS (PAH) CONTENT

As Per ISO 16190:2021, By Solvent Extraction And Determined By Gas Chromatography - Mass Spectrometry (GC/MS)

No.	Tested Compound	CAS No.	Result (mg/kg)		Requirement (mg/kg)
			(1)	(2)	
1.	Benzo[a]pyrene (BaP)	50-32-8	ND	ND	1.0
2.	Benzo[e]pyrene (BeP)	192-97-2	ND	ND	1.0
3.	Benzo[a]anthracene (BaA)	56-55-3	ND	ND	1.0
4.	Chrysene (CHR)	218-01-9	ND	ND	1.0
5.	Benzo[b]fluoranthene (BbFA)	205-99-2	ND	ND	1.0
6.	Benzo[j]fluoranthene (BjFA)	205-82-3	ND	ND	1.0
7.	Benzo[k]fluoranthene (BkFA)	207-08-9	ND	ND	1.0
8.	Dibenzo[a,h]anthracene (DBAha)	53-70-3	ND	ND	1.0

Remark :

ND = Not Detected

Detection Limit = 0.5 mg/kg

CONCLUSION

Standard	Result
BS EN ISO 21420:2020 Protective Gloves – General requirements and test methods -Polycyclic Aromatic Hydrocarbons (PAH) Content	Pass