

EQUIPMENT & MATERIALS REQUIRING DGMS APPROVAL

SL.NO.	EQUIPMENT	PROVISION OF REGULATION				STANDARD FOLLOWED	BIS LICENSING	REMARKS
		CMR, 1957	MMR, 1961	OMR, 1984	MINE RESCUE RULES, 1985			
1.	Flame Safety Lamp	2(2)	2(2)	11(5)		IS:7577-1986	Required	
2.	Cap Lamp a) Flexible cable for miners' cap lamps. b) Miners' cap lamp assemblies (incorporating Pb-acid batteries) c) Miners' cap lamp batteries (Pb-acid type)	2(2)	2(2)			IS:2593-1984 IS:5679-1986 IS:2512-1978 IE(60079-35 Part 1 & 2 Cap lights for use in mines and	Required Required Required	
3.	Permitted Explosives a) Permitted explosives b) Detonators c) Detonating fuses	2(23)	2(23)			IS:6609(part-2/Sec.2)-1974 IS:6609(part 3)-1974 IS:6609(part 4)-1984		Recommendations of the workshop on testing of permitted explosives held at DGMS(HQ) on Feb. 1994 being followed
4.	Tub Couplings	89(1)(c)	97(1)(c)					General design approval vide DGMS circulars No.4 of 1985 & No.1 of 1986. No individual approval
5.	(a) CO detector/Tube type (b) CO detector other than tube type	113(3)(c) 118A(3)(a)(I) 119(1)(b) 121 125(3)(b) 142(5)	116(3)(b) 120(1)(b) 10(2)(c) 122 126(3)(b) 141(5)			Tubes – IS:13293-1992 CO detectors – IS/IEC 60079-0:2004 IS/IEC 60079-11:2006	Required	These are intrinsically safe type instruments.

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		CMR, 1957	MMR, 1961	OMR, 1984	MINE RESCUE RULES, 1985			
6.	CO2 Detector	119(2)(d)(ii)				do		do
7.	Oxymeter	119(2)(c)(iii)				do		do
8.	Multigas detector/ Toximeter					do		Regulation as per the facility for measuring the gases
9.	(a) Gravimetric Dust Sampler (b) Personal Dust Sampler	123(3)(b)	124(2)(b)			NCB MRE 113 A design as prototype		
10.	Stone dust barrier	123(c)(2)	-					General design approval vide DGMS Circular No.6 (Legis) of 1975.
11.	(a) Portable Methanometer (b) Infra red type	145(1)(a)	-			Portable (electrical type) IS:9937-1981 IEC 60079-0:2004 IEC 60079-11:2006		
12.	Glass of Flame Safety Lamp	157(4)	151(4)			IS:5676-1986		
13.	Cap Lamp Bulbs	157(4)	151(4)			For 4V, 0.8A- IS: 2596-1980 4V, 1.0 A-		
14.	Oil for Flame Safety Lamp	157(5)	-			IS: 7577-1986		
15.	Mechanically propelled vehicle for transport of explosives	164(A)(2)(a)						General approval granted Circular approval 2/1986. Proposed by CCOE
16.	Exploders	174	165(3)			IS: 9836-1981 Circuit tester: IS: 9836-1981		
17.	Protective Footwear a) Safety rubber canvas boots. b) Protective boots for oilfield workmen.	191	182	87		IS: 3976-1995 IS:9885 (Part I)-1981	Required	

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		CMR, 1957	MMR, 1961	OMR, 1984	MINE RESCUE RULES, 1985			
	c) Leather safety footwear having direct moulded soles. d) Miners' safety boots with leather soles. e) Rubber knee boots. f) Leather safety shoes for women workers in mines and steel plants					IS: 11226-1993 IS:1989 (part I)-1986 IS:3738-1975 IS: 11225-1985	Required	
18.	Helmet	191-A	182A	88		IS:2925-1984	Required	
19.	Fire-resistant brattices including plastic sheeting and ventilation ducting. (a) Fire resistant brattice cloth. (b) Fire resistant brattice sheeting made from unsupported plastics. (c) Ventilation ducting-vinyl coated semi rigid. (d) PVC ventilation tubing (flexible ducting)	181(3)				(a) IS: 4355-1977 (b) IS: 11884-1986 (c) IS: 12814-1989 (d) IS: 3768-1996		
20.	Industrial Safety Belt & Harness	181(3)		27 & 93		IS3521-1999	Required	No separate approval required since 1993, if conforms to relevant IS and covered under BIS licensing scheme
21.	Friction Props And Prop Setting Devices	181(3)				IS-7586:1975		
22.	Hydraulic Props	181(3)				IS-8421:1977		
23.	Link Bars	181(3)				IS-9171:1979		
24.	Powered Supports	181(3)				ICIS-001:1991		
25.	Man Riding Haulage System	181(3)				IS-9494:1980		DGMS guideline Mech(HQ)/R-H-M-R/670-D/12331-60, dt 01.09.82

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		CMR, 1957	MMR, 1961	OMR, 1984	MINE RESCUE RULES, 1985			
26.	Cage Suspension Gear	181(3)				IS-7587:1993		
27.	Cage Suspension Gear Including Bridle Chains	181(3)				& IS-9011:1978		
28.	Winding Rope	181(3)				IS-1855:1977; IS-3626:1978	Required	
29.	Balance Rope	181(3)				IS-5203:1969	Required	
30.	Haulage rope for man riding	181(3)				IS-1855:1977; IS-3626:1978	Required	
31.	Underground conveyor belting	181(3)				IS-3181:2006 for PVC belting; BCS-730 for Steel cord belting. 15143:2002		IS for Steel cord belting under preparation.
32.	Underground locomotive (Diesel)	181(3) 95(1)				Reg 95(1) & TM 12 of British Coal, BIS-9999: 1981		
33.	Internal Combustion Engine	181(3) 95(1)			EN 1834 Part 1 to 3			
34.	Flame Proof and Intrinsically safe Equipment	181(3)				IS/IEC 60079-0:2004 IS/IEC 60079-1:2007 IS/IEC 60079-11-2006	Required	
35.	Automatic Contrivance	181(3)				Reg. 76(7) of CMR'57		
36.	Power Brake	181(3)				Reg. 74(2) of CMR'57		
37.	Automatic Speed Chart Recorder	181(3)				Reg. 76(6) of CMR'57		
38.	Emergency Steam Valve	181(3)				Reg. 74(3) of CMR'57		
39.	Water ampoules/ Gel ampoules for stemming high explosives (a) Self sealing PVC water ampoules for use in shot holes	181(3)				NCB 414/1964		
40.	High pressure hydraulic hose with its end fittings (Fire resistant)	181(3)				BCS-174:1992; BCS 638; EN 856:2003		To be included

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		CMR, 1957	MMR, 1961	OMR, 1984	MINE RESCUE RULES, 1985			
41.	Dust respirators	181(3)	182(B)			IS: 9473-1980	Required	
42.	Hydraulic fluid used in underground machinery (Fire resistant)					IS 10532:1983; IS 7895:1975		
43.	Cables used in high, medium and low voltage electrical systems & also flexible cables/ control cables used for electrical systems for all voltages. For use in U/G coal mines and oil mines.	181(3)		75(2)		IS-1554(Part-I & II) IS-9968 (Part-I & II), IS-1026; IS-691, 7098 (Part-I & II)	Required	NCB -188 Accepted
44.	Breathing apparatus				11(5)	IS-10245 (Part-I & II) 1996 (1 st rev.)		
45.	Smoke helmets & apparatus serving same purpose				11(5)	IS-10245 (Part-III): 1982		
46.	Reviving apparatus				11(5)(c)	IS-13366:1992		
47.	Self Rescuers	191D(1)			11(5)(f)	IS-15803:2008 IS/IEC 60079-0:2004 IS/IEC 60079-1:2007	Required	For FSR, for chemical O ₂ type EN-401 followed
48.	Electrical lighting apparatus	181(3)		75(2)		IS-2148, IS-2206 (Part-I)	Required	
49.	Electrical equipment for use in hazardous area (Zone 1 & 2)			75(2)		IS-2148, 5780, 13408, 13346, 13947 IS/IEC 60079-0:2004 IS/IEC 60079-1:2007 IS/IEC 60079-2:2007 IS/IEC 60079-6:2007 IS/IEC 60079-7:2006 IS/IEC 60079-11:2006 IS/IEC 60079-15:2005 IS/IEC 60079-18:2004 IS/IEC 60529:1989	Required	
50.	Gas detectors (Telemonitoring Systems)				11(5)	1. IS:13109 (part 21) 2. Performance test for respective gases as per relevant standards.		For methanometers IS:9937-1981

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						*60079/0-2004 60079/11-2004) *60079/0-2004		
51.	Portable hand lamps for use in storage tanks			55(6) (c) (ii)				API Standard followed
52.	Life line			27 & 93				-do-
53.	Petroleum storage tanks			55				API 620, 650
54.	Pipe lines and fittings (Specification approval if not as per ISS)			62				API-5L; ANSI-B31.4, B 31.8
55.	Safety Goggles	181(3) 191(D)	182(B)			EN 166, 170 & 172		General circular to be notified.
56.	Ear Plugs	181(3) 191(D)	182(B)			IS 9167-1979 & IS 6229-1971		
57.	Reflective/ High Visibility Harness	181(3) 191(D)	182(B)			EN 471:2003		General circular to be notified.
58.	Fire Fighting & Fire suppression systems including automatic fire detection and suppression systems	181(3)		73(1)				
59.	Steel supports (cogs, chock, props), Roof Bolts, Cement & Resin grouts	181(3)						

APPENDIX-II**FIELD TRIAL & REGULAR APPROVAL PERIOD FOR EQUIPMENT & MATERIALS REQUIRING DGMS APPROVAL**

S. No.	EQUIPMENT	PERIOD OF FIELD TRIAL	QUANTITY TO BE SUBJECTED TO FIELD TRIAL	PERIOD OF APPROVAL	REMARKS
1.	Flame Safety Lamp	Three months of 9 hrs. Each day	3 nos. in 3 mines.	Two (2) years followed by three (3) years	
2.	Cap Lamp	Six months for 9 hrs. each day	3 nos. in 3 mines.	do	
3.	Permitted Explosives and detonators	Six months.	100 Kgs (explosives)	Two (2) years followed by two (2) years.	Minimum 500 detonators for electric detonators. For delay, 200 for each delay Nos.
4.	Water/gel ampoules/stemming plugs.	Six months.	1000 nos.	Two (2) years followed by three (3) years.	
5.	Tub Couplings	-	-	-	General approval vide DGMS circular No.4 of 1985 & 1 of 1986
6.	Co detector	Three months	3 nos. in 3 mines.	Two (2) years followed by three (3) years.	
7.	Dust sampler	Three months for 9 hrs. each day	3 nos. in 3 mines.	do	
8.	Stone dust barrier	-	-	-	General approval vide DGMS circular No.6 (Legis) of 1975.
9.	Methanometer	Three months.	3 nos. 3 mines	Two (2) years followed by three (3) years	
10.	CO2 Detector	Three months.	3 nos. in 3 mines	do	
11.	Multigas Detector	Three months.	3 nos. in 3 mines	do	
12.	Oxymeter	Three months.	3 nos. in 3 mines	do	

S. No.	EQUIPMENT	PERIOD OF FIELD TRIAL	QUANTITY TO BE SUBJECTED TO FIELD TRIAL	PERIOD OF APPROVAL	REMARKS
13.	Glass of Flame Safety Lamp	Three months.	3 nos. in 3 mines	do	
14.	Cap Lamp Bulbs	Three months for 9 hrs. each day.	20 nos. each in 3 mines.	do	
15.	Oil for Flame Safety Lamp	Three months.	50 Litres	do	
16.	Mechanically propelled vehicle for transport of explosives	-	-	-	DGMS Circular No.36 of 1972 followed as guideline
17.	Exploders	Six months.	2 nos. in two mines	Two (2) years followed by three (3) years.	
18.	Protective Footwear	Six months.	3 pairs each in three mines	do	
19.	Safety goggles	Six months.	30 nos.	do	
20.	Reusable Ear Plugs	Six months.	100 nos.	do	
21.	Visibility harness	Six months	30 nos.	do	
22.	Noise level meter	Six months.	2 nos.	do	
23.	Steel supports	Six months.	5 nos. each in three mines	do	
24.	Roof bolts.	Six months.	2% of one batch, in three mines.	do	
25.	Cement & resin grout.	Six months.	2% of one batch, in three mines.	do	
26.	Chemical additives for dust suppression in coal mines.	Twelve months	2% of one batch, in three mines.	do	
27.	Emergency escape devices in oil mines	Twelve months	1 no. in 1 mine	do	
28.	Dust suppression/prevention systems in drilling m/c	Three months.	1 no. in 1 mine	do	
29.	All lighting fixtures/systems used in all U/G mines.	Twelve months	1 No. each in three mines	do	
30.	Environmental monitoring system/ telemonitoring systems	Six months.	1 No. each in three mines.	do	
31.	Helmet	Six months	3 nos. each in three mines	do	

S. No.	EQUIPMENT	PERIOD OF FIELD TRIAL	QUANTITY TO BE SUBJECTED TO FIELD TRIAL	PERIOD OF APPROVAL	REMARKS
32.	Fire-resistant brattices including plastic sheeting and ventilation ducting.	Six months	One roll of 50 m. Each in 3 mines	do	
33.	Safety Belt/full body harness	Six months	10 nos.	do	No separate approval required if conforms to IS-3521:1983 and covered under BIS licensing scheme
34.	Friction Props And Prop Setting Devices	Twelve months	50 nos.	do	
35.	Hydraulic Roof Support	Twelve months	50 nos.	do	
36.	Link Bars	Twelve months	50 nos.	do	
37.	Powered Supports	Twelve months	One set.	do	
38.	Man Riding Haulage System	Twelve months	One set.	do	
39.	Detaching Hook	Twelve months	Four sets.	do	
40.	Cage Suspension Gear Including Bridle Chains	Twelve months	One set each.	do	
41.	Winding Rope	Twelve months	One length.	do	
42.	Balance Rope	Twelve months	do	do	
43.	Haulage rope for manriding	Twelve months	do	do	
44.	Underground conveyor belting	Twelve months	No restriction.	do	
45.	Underground locomotive	Three months	One set.	do	
46.	Internal Combustion Engine	Three months	One set.	do	
47.	Flame Proof and Intrinsically safe Equipment	Three months	One set.	do	
48.	Automatic Contrivance	Three months	One set.	do	
49.	Power Brake	Three months	One set.	do	
50.	Automatic Speed Chart Recorder (ARSI)	Three months	One set.	do	
51.	Emergency Steam Stop Valve	Three months	One set.	do	
52.	Water ampoules/ Gel ampoules for stemming high explosives	Six months	1000 nos.	do	
53.	High pressure hydraulic hose with its end fittings.	Twelve months	No restriction.	do	
54.	Dust respirators.	Three months, 8 hours each day	10 Nos. in at least three mines.	do	

S. No.	EQUIPMENT	PERIOD OF FIELD TRIAL	QUANTITY TO BE SUBJECTED TO FIELD TRIAL	PERIOD OF APPROVAL	REMARKS
55.	Hydraulic fluid used in underground machinery	1000 Hrs.	In two machines.	do	Trials to be carried out in at least 2 mines.
56.	Cables used in high, medium and low voltage electrical systems & also flexible cables/ control cables used for electrical systems of all voltages.	Three months.	50 meters to 100 meters depending on situation and equipment with which it is fitted.	do	Shot firing cable and cable under NCB 188-1975 specifications are approved for one year only.
57.	Breathing apparatus	-	Performance test at two rescue stations.	do	
58.	Smoke helmets & apparatus serving same purpose	-	Performance test at two rescue stations.	do	
59.	Reviving apparatus	-	Performance test at two rescue stations.	do	
60.	Self Rescuers	-	Performance test at two rescue stations.	do	
61.	Electrical lighting apparatus	Three months	One set.	do	
62.	Electrical equipment for use in hazardous area (Zone 1 & 2)	Three months	One set.	do	
63.	Gas detectors	Three months	3 nos. in 3 mines	do	Minimum 30 readings shall be taken and compared in each mine.
64.	Portable hand lamps for use in storage tanks	-	3 nos. in 3 mines	do	API Standards followed.
65.	Life Line	-	-	do	do
66.	Petroleum storage tanks	-	-	do	API 620, 650
67.	Pipe lines and fittings (Specifications approval if not as per ISS)	-	-	do	API-5L; ANSI- B31.4, B 31.8