



O.G.P. OIL & GAS PETROCHEMICAL





A company established in 1973, IMC is a special cables manufacturing company.

In its manufacturing units located in Salerno - an area of 30.000 sq.m out of which 14.000 are covered - IMC produces a wide range of cables for many different applications such as Oil & Gas, Petrochemical, Datacoms, Industrial Automations.

Since early time IMC earned a reputation of high quality, strong commitment company connecting its name to various customers and project worldwide, while operating in compliance with ISO 9001 and ISO 14001.

The range of instrument cables that IMC manufacture for the OGP industrial sector is designed according to the European Norms for instrumentation cables: EN 5288-7 and includes amongst other:

- Single and multipair/triad overall screened unarmoured cables
- Single and multipair/triad individual and overall screened unarmoured cables
- Single and multipair/triad overall screened armoured cables
- Single and multipair/triad individual and overall screened armoured cables
- Field bus cables
- Cables with multilayers sheath for chemical and environmental protection

Instrumentation cables

XLPE / OVS / PVC FR 300 V

EN 50288-7



CONSTRUCTION

Element	Material	Code	Value	Measure Unit	Standards
Inner conductor	Bare Copper	Cu			IEC 60228 cl. 2
Insulation	Cross-Linked Polyethylene	XLPE			EN 50290-2-29
Construction and shielded pairs					
Identification Pairs	Pair identification with a colour code and number				
Colour Code	Black, White				
Lay-up					
Separator Tape	Polyester	Pet			
Drain wire	Tinned Copper	CuSn	1 x 0,5	mm ²	IEC 60228 cl. 2
Screen Tape	Aluminium / Polyester	Al / Pet			
Jacket	Black 9005	Flame Retardant polivinylchloride	PVC FR		EN 50363-4-1

ELECTRICAL PROPERTIES

Description		Value	Measure Unit	Standards
Operating Voltage		300	V	
Test voltage conductor / conductor		1500	Vac x 1 min	EN 50395 § 6
Test voltage conductor / screen		1500	Vac x 1 min	EN 50395 § 6
Conductor resistance	0,5 mm ²	max 37,5	Ω / km @ 20 °C	EN 50395 § 5
	0,75 mm ²	max 25,5		
	1 mm ²	max 18,6		
	1,5 mm ²	max 12,5		
Mutual Capacitance	1 pair	max 115	nF / km	EN 50289 - 1 - 5
	2 to 4 pairs	max 100		
	above 4 pairs	max 85		
Insulation resistance		min 5000	M Ω x km @ 20 °C	EN 50289 - 1 - 4

MECHANICAL CHARACTERISTICS

Description		Value	Measure Unit	Standards
Operating Temperature		-30 / +70	°C	
Test voltage conductor / conductor		7,5 x outer diam	mm	

REFERENCE STANDARDS

EN 50288-7 ; IEC 60332-1

Instrumentation cables

XLPE / OVS / PVC FR 300 V

EN 50288-7

Formation	Insulation Thickness	Thickness Jacket	Diameter of Jacket	Weight
n x 2 x mm ²	mm	mm	mm	kg/km
1 x 2 x 0,5	0,40	0,80	5,20	39
2 x 2 x 0,5	0,40	0,90	7,60	67
4 x 2 x 0,5	0,40	0,90	8,80	94
5 x 2 x 0,5	0,40	1,00	9,80	117
6 x 2 x 0,5	0,40	1,00	10,60	137
8 x 2 x 0,5	0,40	1,10	11,50	165
10 x 2 x 0,5	0,40	1,10	12,90	197
12 x 2 x 0,5	0,40	1,20	13,70	234
16 x 2 x 0,5	0,40	1,20	15,20	292
20 x 2 x 0,5	0,40	1,20	16,90	357
24 x 2 x 0,5	0,40	1,30	18,50	429
1 x 2 x 0,75	0,40	0,80	5,80	47
2 x 2 x 0,75	0,40	0,90	8,50	84
4 x 2 x 0,75	0,40	1,00	10,00	123
5 x 2 x 0,75	0,40	1,00	10,90	149
6 x 2 x 0,75	0,40	1,00	11,80	176
8 x 2 x 0,75	0,40	1,10	12,80	214
10 x 2 x 0,75	0,40	1,10	14,50	253
12 x 2 x 0,75	0,40	1,10	15,10	291
16 x 2 x 0,75	0,40	1,20	17,30	385
20 x 2 x 0,75	0,40	1,30	19,40	485
24 x 2 x 0,75	0,40	1,40	20,80	573
1 x 2 x 1	0,40	0,90	6,30	56
2 x 2 x 1	0,40	1,00	9,40	104
4 x 2 x 1	0,40	1,10	11,10	157
5 x 2 x 1	0,40	1,10	11,90	185
6 x 2 x 1	0,40	1,10	13,00	225
8 x 2 x 1	0,40	1,10	14,20	273
10 x 2 x 1	0,40	1,20	15,90	331
12 x 2 x 1	0,40	1,20	17,00	377
16 x 2 x 1	0,40	1,30	19,40	506
20 x 2 x 1	0,40	1,30	21,10	604
24 x 2 x 1	0,40	1,40	23,10	718
1 x 2 x 1,5	0,50	0,90	7,10	72
2 x 2 x 1,5	0,50	1,00	10,80	135
4 x 2 x 1,5	0,50	1,10	12,70	209
5 x 2 x 1,5	0,50	1,20	14,20	263
6 x 2 x 1,5	0,50	1,20	15,20	308
8 x 2 x 1,5	0,50	1,20	16,40	379
10 x 2 x 1,5	0,50	1,30	18,80	468
12 x 2 x 1,5	0,50	1,30	19,70	572
16 x 2 x 1,5	0,50	1,40	22,50	711
20 x 2 x 1,5	0,50	1,50	25,20	888
24 x 2 x 1,5	0,50	1,60	27,10	1048

Instrumentation cables

XLPE / IS / OVS / PVC FR 300 V

EN 50288-7



CONSTRUCTION

Element	Material	Code	Value	Measure Unit	Standards
Inner conductor	Bare Copper	Cu			IEC 60228 cl. 2
Insulation	Cross-Linked Polyethylene	XLPE			EN 50290-2-29
Construction and shielded pairs					
Identification Pairs	Pair identification with a colour code and number				
Colour Code	Black, White				
Separator Tape of pair	Polyester	Pet			
Drain wire of pair	Tinned Copper	CuSn	1 x 0,5	mm ²	IEC 60228 cl. 2
Screen Tape of pair	Aluminium / Polyester	Al / Pet			
Separator Tape of pair	Polyester	Pet	Optional		
Lay-up					
The Shielded pairs are stranded in several concentric layers					
Separator Tape	Polyester	Pet			
Drain wire	Tinned Copper	CuSn	1 x 0,5	mm ²	IEC 60228 cl. 2
Screen Tape	Aluminium / Polyester	Al / Pet			
Jacket Black 9005	Flame Retardant polivinylchloride	PVC FR			EN 50363-4-1

ELECTRICAL PROPERTIES

Description		Value	Measure Unit	Standards
Operating Voltage		300	V	
Test voltage conductor / conductor		1500	Vac x 1 min	EN 50395 § 6
Test voltage conductor / screen		1500	Vac x 1 min	EN 50395 § 6
Conductor resistance	0,5 mm ²	max 37,5	Ω / km @ 20 °C	EN 50395 § 5
	0,75 mm ²	max 25,5		
	1 mm ²	max 18,6		
	1,5 mm ²	max 12,5		
Mutual Capacitance		max 115	nF / km	EN 50289 - 1 - 5
Insulation resistance		min 5000	MΩ x km @ 20 °C	EN 50289 - 1 - 4

MECHANICAL CHARACTERISTICS

Description		Value	Measure Unit	Standards
Operating Temperature		-30 / +70	°C	
Minimum Bending Radius		7,5 x outer diam	mm	

REFERENCE STANDARDS

EN 50288-7 ; IEC 60332-1

Instrumentation cables

XLPE / IS / OVS / PVC FR 300 V

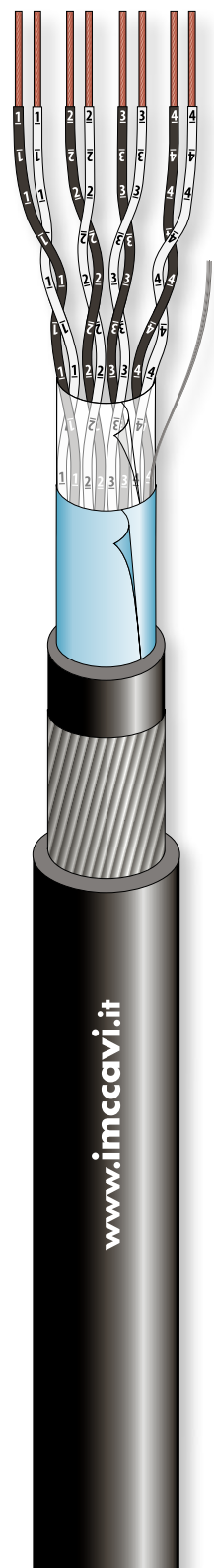
EN 50288-7

Formation	Insulation Thickness	Thickness Jacket	Diameter of Jacket	Weight
n x 2 x mm ²	mm	mm	mm	kg/km
2 x 2 x 0,5	0,40	0,90	8,70	83
4 x 2 x 0,5	0,40	1,00	10,20	124
5 x 2 x 0,5	0,40	1,10	11,40	148
6 x 2 x 0,5	0,40	1,10	12,30	172
8 x 2 x 0,5	0,40	1,10	13,10	213
10 x 2 x 0,5	0,40	1,20	15,10	269
12 x 2 x 0,5	0,40	1,20	15,70	298
16 x 2 x 0,5	0,40	1,20	17,80	378
20 x 2 x 0,5	0,40	1,40	19,90	477
24 x 2 x 0,5	0,40	1,40	21,50	556
2 x 2 x 0,75	0,40	1,00	9,70	105
4 x 2 x 0,75	0,40	1,00	11,20	147
5 x 2 x 0,75	0,40	1,10	12,50	186
6 x 2 x 0,75	0,40	1,20	13,80	224
8 x 2 x 0,75	0,40	1,20	14,40	267
10 x 2 x 0,75	0,40	1,20	16,60	328
12 x 2 x 0,75	0,40	1,20	17,40	368
16 x 2 x 0,75	0,40	1,30	19,80	485
20 x 2 x 0,75	0,40	1,40	22,00	595
24 x 2 x 0,75	0,40	1,50	24,00	716
2 x 2 x 1	0,40	1,00	10,40	119
4 x 2 x 1	0,40	1,10	12,30	181
5 x 2 x 1	0,40	1,20	13,70	225
6 x 2 x 1	0,40	1,20	15,00	268
8 x 2 x 1	0,40	1,20	16,00	335
10 x 2 x 1	0,40	1,30	18,20	409
12 x 2 x 1	0,40	1,40	19,20	465
16 x 2 x 1	0,40	1,40	21,60	593
20 x 2 x 1	0,40	1,50	24,10	722
24 x 2 x 1	0,40	1,60	26,30	879
2 x 2 x 1,5	0,50	1,10	12,00	155
4 x 2 x 1,5	0,50	1,20	14,10	245
5 x 2 x 1,5	0,50	1,20	15,50	302
6 x 2 x 1,5	0,50	1,30	17,10	369
8 x 2 x 1,5	0,50	1,30	18,20	438
10 x 2 x 1,5	0,50	1,40	21,00	553
12 x 2 x 1,5	0,50	1,50	22,10	635
16 x 2 x 1,5	0,50	1,60	25,30	838
20 x 2 x 1,5	0,50	1,70	28,00	1023
24 x 2 x 1,5	0,50	1,80	30,50	1225

Instrumentation cables

XLPE / OVS / PVC / SWA / PVC FR 300 V

EN 50288-7



CONSTRUCTION

Element	Material	Code	Value	Measure Unit	Standards
Inner conductor	Bare Copper	Cu			IEC 60228 cl. 2
Insulation	Cross-Linked Polyethylene	XLPE			EN 50290-2-29
Construction and shielded pairs					
Identification Pairs	Pair identification with a colour code and number				
Colour Code	Black, White				
Lay-up					
The pairs are stranded in several concentric layers					
Separator Tape	Polyester	Pet			
Drain wire	Tinned Copper	CuSn	1 x 0,5	mm ²	IEC 60228 cl. 2
Screen Tape	Aluminium / Polyester	Al / Pet			
Inner Sheath	Black 9005	Polivinyllchloride	PVC		EN 50363-4-1
Armouring		Galvanized round steel wire	FeZn		EN 50288-7
Jacket	Black 9005	Flame Retardant polivinyllchloride	PVC FR		EN 50363-4-1

ELECTRICAL PROPERTIES

Description		Value	Measure Unit	Standards
Operating Voltage		300	V	
Test voltage conductor / conductor		1500	Vac x 1 min	EN 50395 § 6
Test voltage conductor / screen		1500	Vac x 1 min	EN 50395 § 6
Conductor resistance	0,5 mm ²	max 37,5	Ω / km @ 20 °C	EN 50395 § 5
	0,75 mm ²	max 25,5		
	1 mm ²	max 18,6		
	1,5 mm ²	max 12,5		
Mutual Capacitance	1 pair	max 115	nF / km	EN 50289 - 1 - 5
	2 to 4 pairs	max 105		
	above 4 pairs	max 85		
Insulation resistance		min 5000	MΩ x km @ 20 °C	EN 50289 - 1 - 4

MECHANICAL CHARACTERISTICS

Description		Value	Measure Unit	Standards
Operating Temperature		-30 / +70	°C	
Minimum Bending Radius		7,5 x outer diam	mm	

REFERENCE STANDARDS

EN 50288-7 ; IEC 60332-1

Instrumentation cables

XLPE / OVS / PVC / SWA / PVC FR 300 V

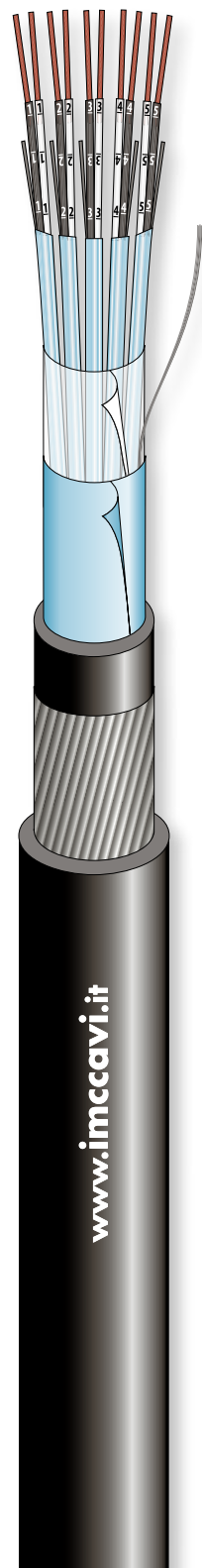
EN 50288-7

Formation	Insulation Thickness	Thickness Inner Sheath	Diameter of inner sheath	Diam Wire Arm	Thickness Jacket	Diameter of Jacket	Weight
n x 2 x mm ²	mm	mm	mm	mm	mm	mm	kg/km
1 x 2 x 0,5	0,40	0,80	5,20	0,90	1,30	9,60	177
2 x 2 x 0,5	0,40	0,90	7,60	0,90	1,30	12,00	256
4 x 2 x 0,5	0,40	0,90	8,80	0,90	1,40	13,40	314
5 x 2 x 0,5	0,40	1,00	9,80	0,90	1,40	14,40	362
6 x 2 x 0,5	0,40	1,00	10,60	0,90	1,40	15,20	401
8 x 2 x 0,5	0,40	1,10	11,50	0,90	1,40	15,90	438
10 x 2 x 0,5	0,40	1,10	12,90	0,90	1,50	17,70	518
12 x 2 x 0,5	0,40	1,20	13,70	0,90	1,50	18,50	557
16 x 2 x 0,5	0,40	1,20	15,20	0,90	1,50	20,00	659
20 x 2 x 0,5	0,40	1,20	16,90	0,90	1,60	21,90	773
24 x 2 x 0,5	0,40	1,30	18,50	1,25	1,60	24,20	990
1 x 2 x 0,75	0,40	0,80	5,80	0,90	1,30	10,20	196
2 x 2 x 0,75	0,40	0,90	8,50	0,90	1,40	13,10	297
4 x 2 x 0,75	0,40	1,00	10,00	0,90	1,40	14,60	369
5 x 2 x 0,75	0,40	1,00	10,90	0,90	1,40	15,50	419
6 x 2 x 0,75	0,40	1,00	11,80	0,90	1,40	16,40	463
8 x 2 x 0,75	0,40	1,10	12,80	0,90	1,50	17,60	529
10 x 2 x 0,75	0,40	1,10	14,50	0,90	1,50	19,30	614
12 x 2 x 0,75	0,40	1,10	15,10	0,90	1,50	19,90	664
16 x 2 x 0,75	0,40	1,20	17,30	0,90	1,60	22,30	816
20 x 2 x 0,75	0,40	1,30	19,40	1,25	1,60	25,10	1078
24 x 2 x 0,75	0,40	1,40	20,80	1,25	1,60	26,50	1218
1 x 2 x 1	0,40	0,90	6,30	0,90	1,30	10,70	219
2 x 2 x 1	0,40	1,00	9,40	0,90	1,40	14,00	331
4 x 2 x 1	0,40	1,10	11,10	0,90	1,40	15,70	421
5 x 2 x 1	0,40	1,10	11,90	0,90	1,40	16,50	475
6 x 2 x 1	0,40	1,10	13,00	0,90	1,40	17,60	532
8 x 2 x 1	0,40	1,10	14,20	0,90	1,50	19,00	608
10 x 2 x 1	0,40	1,20	15,90	0,90	1,50	20,70	716
12 x 2 x 1	0,40	1,20	17,00	0,90	1,50	21,80	905
16 x 2 x 1	0,40	1,30	19,40	1,25	1,70	25,30	1131
20 x 2 x 1	0,40	1,30	21,10	1,25	1,70	27,00	1273
24 x 2 x 1	0,40	1,40	23,10	1,25	1,70	29,00	1452
1 x 2 x 1,5	0,50	0,90	7,10	0,90	1,30	11,50	255
2 x 2 x 1,5	0,50	1,00	10,80	0,90	1,40	15,40	397
4 x 2 x 1,5	0,50	1,10	12,70	0,90	1,50	17,50	526
5 x 2 x 1,5	0,50	1,20	14,20	0,90	1,50	19,00	602
6 x 2 x 1,5	0,50	1,20	15,20	0,90	1,50	20,00	673
8 x 2 x 1,5	0,50	1,20	16,40	0,90	1,60	21,40	785
10 x 2 x 1,5	0,50	1,30	18,80	1,25	1,60	24,50	1059
12 x 2 x 1,5	0,50	1,30	19,70	1,25	1,70	25,60	1182
16 x 2 x 1,5	0,50	1,40	22,50	1,25	1,70	28,40	1425
20 x 2 x 1,5	0,50	1,50	25,20	1,25	1,80	31,30	1678
24 x 2 x 1,5	0,50	1,60	27,10	1,60	2,00	34,30	1926

Instrumentation cables

XLPE / IS / OVS / PVC / SWA / PVC FR 300 V

EN 50288-7



CONSTRUCTION

Element	Material	Code	Value	Measure Unit	Standards
Inner conductor	Bare Copper	Cu			IEC 60228 cl. 2
Insulation	Cross-Linked Polyethylene	XLPE			EN 50290-2-29
Construction and shielded pairs					
Identification Pairs	Pair identification with a colour code and number				
Colour Code	Black, White				
Separator Tape of pair	Polyester	Pet			
Drain wire of pair	Tinned Copper	CuSn	1 x 0,5	mm ²	IEC 60228 cl. 2
Screen Tape of pair	Aluminium / Polyester	Al / Pet			
Separator Tape of pair	Polyester	Pet	Optional		
Lay-up					
The Shielded pairs are stranded in several concentric layers					
Separator Tape	Polyester	Pet			
Drain wire	Tinned Copper	CuSn	1 x 0,5	mm ²	IEC 60228 cl. 2
Screen Tape	Aluminium / Polyester	Al / Pet			
Inner Sheath	Black 9005	Polivinyllchloride	PVC		EN 50363-4-1
Armouring		Galvanized round steel wire	FeZn		EN 50288-7
Jacket	Black 9005	Flame Retardant polivinyllchloride	PVC FR		EN 50363-4-1

ELECTRICAL PROPERTIES

Description		Value	Measure Unit	Standards
Operating Voltage		300	V	
Test voltage conductor / conductor		1500	Vac x 1 min	EN 50395 § 6
Test voltage conductor / screen		1500	Vac x 1 min	EN 50395 § 6
Conductor resistance	0,5 mm ²	max 37,5	Ω / km @ 20 °C	EN 50395 § 5
	0,75 mm ²	max 25,5		
	1 mm ²	max 18,6		
	1,5 mm ²	max 12,5		
Mutual Capacitance		max 115	nF / km	EN 50289 - 1 - 5
Insulation resistance		min 5000	MΩ x km @ 20 °C	EN 50289 - 1 - 4

MECHANICAL CHARACTERISTICS

Description		Value	Measure Unit	Standards
Operating Temperature		-30 / +70	°C	
Minimum Bending Radius		7,5 x outer diam	mm	

REFERENCE STANDARDS

EN 50288-7 ; IEC 60332-1

Instrumentation cables

XLPE / IS / OVS / PVC / SWA / PVC FR 300 V

EN 50288-7

Formation	Insulation Thickness	Thickness Inner Sheath	Diameter of inner sheath	Diam Wire Arm	Thickness Jacket	Diameter of Jacket	Weight
n x 2 x mm ²	mm	mm	mm	mm	mm	mm	kg/km
2 x 2 x 0,5	0,40	0,90	8,70	0,90	1,40	13,30	305
4 x 2 x 0,5	0,40	1,00	10,20	0,90	1,40	14,80	374
5 x 2 x 0,5	0,40	1,10	11,40	0,90	1,40	16,00	422
6 x 2 x 0,5	0,40	1,10	12,30	0,90	1,50	17,10	479
8 x 2 x 0,5	0,40	1,10	13,10	0,90	1,50	17,90	543
10 x 2 x 0,5	0,40	1,20	15,10	0,90	1,50	19,90	638
12 x 2 x 0,5	0,40	1,20	15,70	0,90	1,50	20,50	678
16 x 2 x 0,5	0,40	1,20	17,80	1,25	1,60	23,50	975
20 x 2 x 0,5	0,40	1,40	19,90	1,25	1,60	25,60	1097
24 x 2 x 0,5	0,40	1,40	21,50	1,25	1,70	27,20	1248
2 x 2 x 0,75	0,40	1,00	9,70	0,90	1,40	14,30	342
4 x 2 x 0,75	0,40	1,00	11,20	0,90	1,40	15,80	426
5 x 2 x 0,75	0,40	1,10	12,50	0,90	1,50	17,30	496
6 x 2 x 0,75	0,40	1,20	13,80	0,90	1,50	18,60	559
8 x 2 x 0,75	0,40	1,20	14,40	0,90	1,50	19,20	617
10 x 2 x 0,75	0,40	1,20	16,60	1,25	1,60	22,30	853
12 x 2 x 0,75	0,40	1,20	17,40	1,25	1,60	23,10	923
16 x 2 x 0,75	0,40	1,30	19,80	1,25	1,70	25,70	1117
20 x 2 x 0,75	0,40	1,40	22,00	1,25	1,70	27,90	1296
24 x 2 x 0,75	0,40	1,50	24,00	1,25	1,80	30,10	1483
2 x 2 x 1	0,40	1,00	10,40	0,90	1,40	15,00	378
4 x 2 x 1	0,40	1,10	12,30	0,90	1,50	17,10	485
5 x 2 x 1	0,40	1,20	13,70	0,90	1,50	18,50	554
6 x 2 x 1	0,40	1,20	15,00	0,90	1,50	19,50	618
8 x 2 x 1	0,40	1,20	16,00	0,90	1,50	20,80	716
10 x 2 x 1	0,40	1,30	18,20	1,25	1,70	24,10	988
12 x 2 x 1	0,40	1,40	19,20	1,25	1,70	25,10	1062
16 x 2 x 1	0,40	1,40	21,60	1,25	1,70	27,50	1279
20 x 2 x 1	0,40	1,50	24,10	1,25	1,80	30,20	1503
24 x 2 x 1	0,40	1,60	26,30	1,25	1,80	32,40	1706
2 x 2 x 1,5	0,50	1,10	12,00	0,90	1,50	16,80	462
4 x 2 x 1,5	0,50	1,20	14,10	0,90	1,60	19,10	599
5 x 2 x 1,5	0,50	1,20	15,50	0,90	1,60	20,50	680
6 x 2 x 1,5	0,50	1,30	17,10	1,25	1,70	23,00	905
8 x 2 x 1,5	0,50	1,30	18,20	1,25	1,70	24,10	1027
10 x 2 x 1,5	0,50	1,40	21,00	1,25	1,80	27,10	1245
12 x 2 x 1,5	0,50	1,50	22,10	1,25	1,80	28,20	1342
16 x 2 x 1,5	0,50	1,60	25,30	1,60	1,90	32,30	1836
20 x 2 x 1,5	0,50	1,70	28,00	1,60	2,00	35,20	2126
24 x 2 x 1,5	0,50	1,80	30,50	1,60	2,00	37,70	2443

Instrumentation cables are multi-element cables suitable for connecting instruments and control systems for analogue or digital transmission of signal around the plant for process and automation control.

Instrumentation cables are used extensively by the petrochemical plants and other process industries.

CONSTRUCTION DESIGN

- 1) Different number of pairs as listed in the Data Sheets
- 2) Triads and multitriads lay-up
- 3) Steel Wire Braiding Armour (SWBA)
- 4) Double Steel Tape Armour (DSTA)

FIRE PERFORMANCE CHARACTERISTICS

- 1) Fire resistant cables, silicone insulated, according to
- 2) Flame retardant/Flame propagation
- 3) Smoke density
- 4) Zero halogen

IEC 60331
IEC 60332-1; IEC 60332-2 ; IEC 60332-3
IEC 61034-1; IEC 61034-2
IEC 60754-1; IEC 60754-2

They are also designed to deliver signals in harsh environments and for use in wet or dry locations.

This catalogue shows IMC base product range designed according to EN 50288-7 but the following options are available upon request.

Fieldbus is an industrial digital two way serial-bus communication network used in both Process control and Manufacturing Automation with the in-built capability to distribute the control application services across the network.

Although there is a wide range of fieldbus cables and standards, the most common used in the OGP market are:

BUS CABLE TYPE	System Type	Type of cable	Impedance	Max Length
F. F .	H1: 31,25 Bits/sec	A - Single pair	100±20 Ω	1900 m
Profibus PA	H1: 31,25 Bits/sec	A - Single pair	100±20 Ω	1900 m

Whilst multipair and multicore cables are sometimes used Type A is the common and preferred fieldbus cable particularly for brand new plants. Enclosed Data Sheets describe the base design of the Type A

- FOUNDATION FIELDBUS TYPE A CABLE (FF)
- PROFIBUS-PA PROCESS AUTOMATION

Both cables are very much similar in performance and construction as we can see in the following table and the standards that rule and define those protocols is IEC EN 61158-2.

cables with or without armoring, but different options are available in particular when spread of flame, minimal smoke and acid gas emission are requested by using suitable design and proper compounds.

FIRE PERFORMANCE CHARACTERISTICS

- 1) Flame retardant/Flame propagation
- 2) Smoke density
- 3) Zero halogen

IEC 60332-1; IEC 60332-2 ; IEC 60332-3
IEC 61034-1; IEC 61034-2
IEC 60754-1; IEC 60754-2

Instrumentation cables

FIELD BUS 2X(St)CY-fl 1x2x18/7 AWG

CONSTRUCTION

Element	Material	Code	Value	Measure Unit	Standards
Inner conductor	Bare Copper	Cu	18/7	AWG	IEC 60228 cl. 2
Insulation	Cross-Linked Polyethylene	XLPE			EN 50290-2-29
Number cores			2		
Colour Code	Orange, Blue				
Separator Tape	Polyester	Pet			
Screen Tape	Aluminium / Polyester	Al / Pet			
Drain wire	Tinned Copper	CuSn			
Screen Braid	Tinned Copper	CuSn			
Jacket Orange 2003	Flame Retardant polivinyllchloride	PVC FR	8,10	mm	EN 50363-4-1

ELECTRICAL PROPERTIES

Description		Value	Measure Unit	Standards
Conductor resistance	18/7 AWG	max 22	Ω / km @ 20 °C	EN 50395 § 5
Mutual capacitance		max 60	nF / km	EN 50289 - 1 - 5
Inductance		nom 0,70	mH / km	EN 50289 - 1 - 12
Impedance		100 +/- 20	Ω @ 31,25 kHz	EN 50289 - 1 - 11

MECHANICAL CHARACTERISTICS

Description		Value	Measure Unit	Standards
Operating Temperature		-30 / +70	°C	
Minimum Bending Radius		7,5 x outer diam	mm	

REFERENCE STANDARDS

EN 61158-2

Instrumentation cables

PROFIBUS PA 2X(St)CY-fl 1x2x18/7 AWG

CONSTRUCTION

Element	Material	Code	Value	Measure Unit	Standards
Inner conductor	Bare Copper	Cu	18/7	AWG	IEC 60228 cl. 2
Insulation	Cross-Linked Polyethylene	XLPE			EN 50290-2-29
Number cores			2		
Colour Code	Green, Red				
Separator Tape	Polyester	Pet			
Screen Tape	Aluminium / Polyester	Al / Pet			
Drain wire	Tinned Copper	CuSn			
Screen Braid	Tinned Copper	CuSn			
Jacket Blue 5015	Flame Retardant polivinyllchloride	PVC FR	8,10	mm	EN 50363-4-1

ELECTRICAL PROPERTIES

Description		Value	Measure Unit	Standards
Conductor resistance	18/7 AWG	max 22	Ω / km @ 20 °C	EN 50395 § 5
Mutual capacitance		max 60	nF / km	EN 50289 - 1 - 5
Inductance		nom 0,70	mH / km	EN 50289 - 1 - 12
Impedance		100 +/- 20	Ω @ 31,25 kHz	EN 50289 - 1 - 11

MECHANICAL CHARACTERISTICS

Description		Value	Measure Unit	Standards
Operating Temperature		-30 / +70	°C	
Minimum Bending Radius		7,5 x outer diam	mm	

REFERENCE STANDARDS

EN 61158-2

Instrumentation cables

FIELD BUS 2X(St)CY-SWA-Y-fl 1x2x18/7 AWG

CONSTRUCTION

Element	Material	Code	Value	Measure Unit	Standards
Inner conductor	Bare Copper	Cu	18/7	AWG	IEC 60228 cl. 2
Insulation	Cross-Linked Polyethylene	XLPE			EN 50290-2-29
Number cores			2		
Colour Code	Orange, Blue				
Separator Tape	Polyester	Pet			
Screen Tape	Aluminium / Polyester	Al / Pet			
Drain wire	Tinned Copper	CuSn			
Screen Braid	Tinned Copper	CuSn			
Inner Sheath Orange 2003	Flame Retardant polivinylchloride	PVC FR	8,10	mm	EN 50363-4-1
Armouring	Galvanized round steel wire	FeZn			EN 50288-7
Jacket Orange 2003	Flame Retardant polivinylchloride	PVC FR	12,70	mm	EN 50363-4-1

ELECTRICAL PROPERTIES

Description		Value	Measure Unit	Standards
Conductor resistance	18/7 AWG	max 22	Ω / km @ 20 °C	EN 50395 § 5
Mutual capacitance		max 60	nF / km	EN 50289 - 1 - 5
Inductance		nom 0,70	mH / km	EN 50289 - 1 - 12
Impedance		100 +/- 20	Ω @ 31,25 kHz	EN 50289 - 1 - 11

MECHANICAL CHARACTERISTICS

Description		Value	Measure Unit	Standards
Operating Temperature		-30 / +70	°C	
Minimum Bending Radius		7,5 x outer diam	mm	

REFERENCE STANDARDS

EN 61158-2

Instrumentation cables

PROFIBUS PA 2X(St)CY-SWA-Y-fl 1x2x18/7 AWG

CONSTRUCTION

Element	Material	Code	Value	Measure Unit	Standards	
Inner conductor	Bare Copper	Cu	18/7	AWG	IEC 60228 cl. 2	
Insulation	Cross-Linked Polyethylene	XLPE			EN 50290-2-29	
Number cores			2			
Colour Code	Green, Red					
Separator Tape	Polyester	Pet				
Screen Tape	Aluminium / Polyester	Al / Pet				
Drain wire	Tinned Copper	CuSn				
Screen Braid	Tinned Copper	CuSn				
Inner Sheath	Blue 5015	Flame Retardant polivinylchloride	PVC FR	8,10	mm	EN 50363-4-1
Armouring		Galvanized round steel wire	FeZn			EN 50288-7
Jacket	Blue 5015	Flame Retardant polivinylchloride	PVC FR	12,70	mm	EN 50363-4-1

ELECTRICAL PROPERTIES

Description		Value	Measure Unit	Standards
Conductor resistance	18/7 AWG	max 22	Ω / km @ 20 °C	EN 50395 § 5
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Impedance		100 +/- 20	Ω @ 31,25 kHz	EN 50289 - 1 - 11

MECHANICAL CHARACTERISTICS

Description		Value	Measure Unit	Standards
Operating Temperature		-30 / +70	°C	
Minimum Bending Radius		7,5 x outer diam	mm	

REFERENCE STANDARDS

EN 61158-2



Partners
not supplier



I.M.C. s.r.l.

Via Mecio Gracco, 4
84131 Salerno • Italia
Tel. +39 089 771 155 pbx
Fax +39 089 301 329
imc@imccavi.it

www.imccavi.it