

# 4 - Other arc welding



- Cables and connectors ..... 4-1 to 4-2
- Clamps ..... 4-3 to 4-4
- Miscellaneous ..... 4-5 to 4-6
- Ceramic backings..... 4-7 to 4-10



## The different types of cable

### ■ Primary cables:

Three core for single phase or four core for three phase requirement.

**Standard:  
H07RN-F**

Current indication is the maximum accepted to conform to the 287 IEC recommendation.



### ■ Secondary cables:

**Standard:  
H01N2-E  
extra flexible**

**Standard:  
H01N2-D  
flexible**

A single copper core between the power source and the clamp as well as between the power source and the electrode holder. The current indication is the maximum accepted to conform to the 287 IEC recommendation.

For length over 10 meters, the section has to be increased.

For secondary cable, the European directive (2006/95/EC-low voltage directive) imposes the conformity to one of these two standards. It means that for safety reason (resistance to welding hot projections), PVC cables must not be used as welding cables, as they do not meet the standards' requirements.


### Reference documents:

- H07RN-F standard for primary cables
- H01N2-E and H01N2-D standards for secondary cables
- Harmonized standard CENELEC HD 516 S2: 1997 / HD 22.6
- § 4.4.5 Document change through amendment A1: 2003
- Communication in the framework (01/02/2005) of the low voltage directive




## Primary cables

H07RN-F


 mm <sup>2</sup>	A maxi	Cat N° Linear meter
3 x 1.5 mm <sup>2</sup>	23 A	W 000 010 098
3 x 2.5 mm <sup>2</sup>	32 A	W 000 010 099
4 x 2.5 mm <sup>2</sup>	29 A	W 000 010 100
4 x 4 mm <sup>2</sup>	38 A	W 000 010 101
4 x 6 mm <sup>2</sup>	50 A	W 000 010 102
4 x 10 mm <sup>2</sup>	68 A	W 000 010 103
4 x 16 mm <sup>2</sup>	92 A	W 000 010 104
4 x 25 mm <sup>2</sup>	122 A	W 000 010 105
4 x 35 mm <sup>2</sup>	150 A	W 000 010 106

## Secondary cables

H01N2-E (extra flexible)

 mm <sup>2</sup>	A maxi	Cat N° Linear meter
16 mm <sup>2</sup>	130 A	W 000 010 137
25 mm <sup>2</sup>	172 A	W 000 010 138
35 mm <sup>2</sup>	216 A	W 000 010 139
50 mm <sup>2</sup>	273 A	W 000 010 140
70 mm <sup>2</sup>	340 A	W 000 010 141
95 mm <sup>2</sup>	412 A	W 000 010 142
120 mm <sup>2</sup>	480 A	W 000 010 143


H01N2-D (flexible)

 mm <sup>2</sup>	A maxi	Cat N°	
		Coil (50 m)	Linear meter
16 mm <sup>2</sup>	130 A	W 000 260 274	W 000 260 272
25 mm <sup>2</sup>	172 A	W 000 260 275	W 000 260 273
35 mm <sup>2</sup>	216 A	W 000 260 276	W 000 260 271
50 mm <sup>2</sup>	273 A	W 000 260 277	W 000 260 270
70 mm <sup>2</sup>	340 A	W 000 260 278	W 000 260 269
95 mm <sup>2</sup>	412 A	W 000 260 279	W 000 260 268

## Cable connectors DINSE type

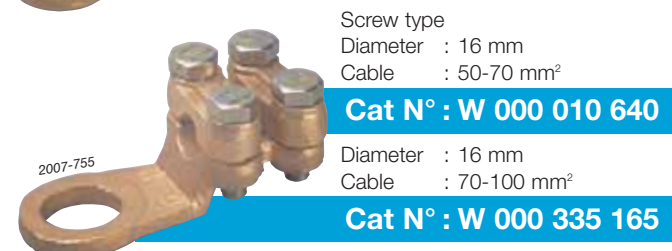
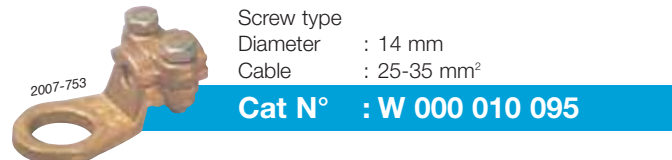
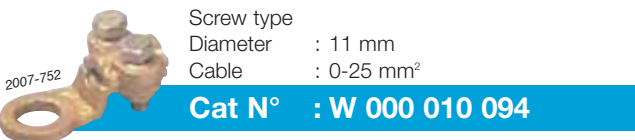
Push and twist design



Description	 mm <sup>2</sup>	A maxi	Cat N°
male	10-25 mm <sup>2</sup>	200 A	W 000 010 559
	35-50 mm <sup>2</sup>	400 A	W 000 010 560
	70-95 mm <sup>2</sup>	600 A	W 000 010 561
female	10-25 mm <sup>2</sup>	200 A	W 000 010 562
	35-50 mm <sup>2</sup>	400 A	W 000 010 563
	70-95 mm <sup>2</sup>	600 A	W 000 010 564

**EN 60974-12**



## Cable lugs



## The choice of a clamp follows several criteria

- It firstly depends upon the maximum amperage you are using.
- Then, the kind of contact is important. For light duty or normal use, steel clamps **HIPPO** type, or brass clamps **CROCODILE** type are perfect. For heavy duty or intensive use, you can choose from **MUSCLOR**, **DRAGON** or **SERRE-JOINT** types.
- Lastly the **MAGNETIC** type been ideal for large component parts and the **ROTARY** for heavy use where the cable turns around the clamp.

## Clamps for normal use

Choice criteria		Maximum amperage (A)	Jaw opening (mm)
HIPPO 200	 <small>2004-634</small>	200	38
HIPPO 400		400	50
HIPPO 600		600	50
CROCODILE 300	 <small>2007-756</small>	300	38
CROCODILE 600		600	38

Name	Cat N°	A (35%)	Ø cable (mm²)	Weight (g)	Customer's benefit
HIPPO 200	W 000 010 579	200	25	208	Economical steel clamps.
HIPPO 400	W 000 010 580	400	70	362	
HIPPO 600	W 000 010 597	600	70	376	
CROCODILE 300	W 000 010 577	300	50	405	Brass clamps. Brass jaws.
CROCODILE 600	W 000 010 578	600	95	634	Very good contact surface.

## Clamps for bulky parts

<i>Choice criteria</i>	Maximum amperage (A)	Jaw opening (mm)
MAGNETIC 500	500	N/A
MAGNETIC 600	600	N/A
ROTARY 800	800	82

Name	Cat N°	A (35%)	Ø cable (mm <sup>2</sup> )	Weight (g)	Customer's benefit
MAGNETIC 500	W 000 010 553	500	70	815	Large surface contact. Can be placed close to the welding position insuring good electrical contact.
MAGNETIC 600	W 000 010 554	600	95	1722	
ROTARY 800	W 000 010 555	800	2 x 95	3319	Brass clamps. Brass jaws.

## Clamps for heavy duty use

<i>Choice criteria</i>	Maximum amperage (A)	Jaw opening (mm)
MUSCLOR 300	300	38
MUSCLOR 600	500	38
SERRE-JOINT 500	500	60
SERRE-JOINT 900	800	75
DRAGON 600	600	38

Name	Cat N°	A (35%)	Ø cable (mm <sup>2</sup> )	Weight (g)	Customer's benefit
MUSCLOR 300	W 000 010 583	300	50	480	Heavy duty brass clamps, powerful jaws giving excellent grip.
MUSCLOR 600	W 000 010 584	500	95	762	
SERRE-JOINT 500	W 000 010 987	500	95	744	Cable fixed with brass sleeve. Improved grip through clamp tightening capacity.
SERRE-JOINT 900	W 000 010 988	800	95	1187	Cable fixed with brass sleeve. Improved grip through clamp tightening capacity. 3 positions of brass guide.
DRAGON 600	W 000 010 582	600	95	816	Brass jaws, rubber sheath cable protection. Screw tightening giving excellent grip.



# Miscellaneous

## Chipping hammers

The choice of a hammer depends on the kind of steel you are working with (black or stainless steel) and some design, like wooden handle or not.

**Steel head, wooden handle**



**Cat N°: W 000 010 801**

- Weight: 660 g
- Length: 315 mm

**Steel head, red rubber grip**



**Cat N°: W 000 010 800**

- Weight: 240 g
- Length: 260 mm

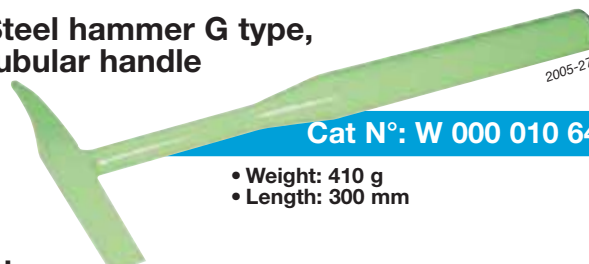
**Stainless steel hammer, red rubber grip**



**Cat N°: W 000 010 556**

- Weight: 230 g
- Length: 255 mm

**Steel hammer G type, tubular handle**



**Cat N°: W 000 010 646**

- Weight: 410 g
- Length: 300 mm

**Stainless steel English type, spring handle**



**Cat N°: W 000 335 164**

- Weight: 290 g
- Length: 265 mm

## Wire brushes

**4 rows brass coated steel wires**



**Cat N°: W 000 010 162**

**4 rows steel wires**



**Cat N°: W 000 010 163**

**2 rows stainless steel wires**



**Cat N°: W 000 010 164**

**4 rows stainless steel wires**



**Cat N°: W 000 010 165**

**Special brush for aluminium**



This brush is specially designed for cleaning aluminium parts before TIG or MIG welding.

**Cat N°: W 000 010 166**

**Rivet wire brush**



**Carbon steel**  
**Cat N°: W 000 335 161**  
**Stainless steel**  
**Cat N°: W 000 335 160**

## MAGLITE®

### Blister packed

Warranty: 10 years



Name	AAA	AA	2D	3D	4D
Colour	Black	Black	Black	Black	Black
Composition	Torch, pen style, 2 batteries LR3	Torch, black nylon case, 2 batteries LR6	Torch	Torch	Torch
Weight	49 g	106 g	421 g	506 g	562 g
Diameter	13 mm	18 mm	-	-	-
Length	127 mm	145 mm	254 mm	307 mm	369 mm
Battery (type)	2 LR3	2 LR6	2 LR20	3 LR20	4 LR20
Cat N°	W 000 211 966	W 000 211 967	W 000 211 968	W 000 211 969	W 000 211 970

### Pack range



Designation	Cat N°
Solitaire	W 000 211 978
AAA	W 000 211 977
AA	W 000 211 976

### MAG Charger

- Nickel-cadmium battery (charger included)
- Rechargeable up to 1000 times: the most powerful torch

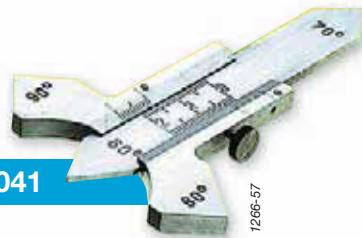
Cat N°:  
W 000 211 929



Spare parts for MAGLITE® charger	
Designation	Cat N°
Bulbs	W 000 211 654
Battery	W 000 211 980
Spare bulbs	
Designation	Cat N°
AAA	W 000 211 653
AA	W 000 211 972
2D	W 000 211 973
3D	W 000 211 974
4D	W 000 211 975

## Welding gauge

- Measures precisely the thickness of the welding beads, flat as well as angles of 90°.
- Capacity of 20 mm with double vernier of 1/10 mm.
- 4 bevel control angles: 90° - 80° - 70° - 60°.
- Delivered in a leather case.



Cat N°: W 000 011 041

## Temperature control stick

- Easy to use surface indicator
- ±1% accuracy



Designation and temperature	Per pack of 12 pieces
100 (101 °C - 213 °F)	W 000 010 156
120 (121 °C - 250 °F)	W 000 011 042
150 (149 °C - 300 °F)	W 000 010 157
177 (177 °C - 350 °F)	W 000 011 045
200 (198 °C - 388 °F)	W 000 010 158
232 (232 °C - 450 °F)	W 000 011 044
250 (253 °C - 488 °F)	W 000 010 159
300 (302 °C - 575 °F)	W 000 010 160
350 (343 °C - 650 °F)	W 000 010 161
370 (371 °C - 700 °F)	W 000 011 043



# Ceramic backings

## **KERALINE**

### ■ General features

The ceramic backing blocks use a mix of natural inorganic materials (talc, kaolin clay).

The adhesive aluminium tape contains no halogen elements.

One-side welding ceramic backings are suitable for different arc welding processes:

- SMAW,
- GMAW:
  - Solid wire,
  - Flux cored wire.

The technique of using the ceramic backings is easy to learn, even a welder that is not used to weld root passes day by day is able to perform a high quality root pass.

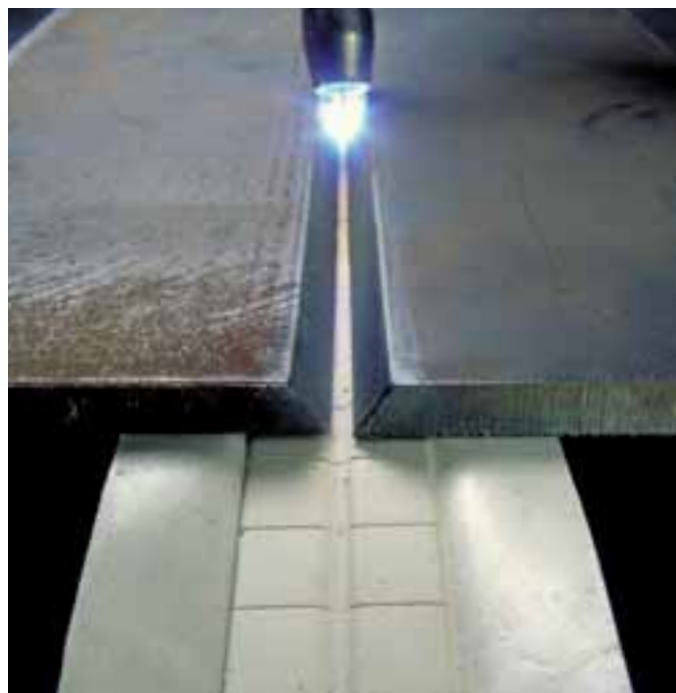


Excellent welding in semi automatic applications (trolley...).

### ■ Economical aspects

Welding with KERALINE our new range of ceramic backings enables you to build a much more efficient weld root:

- without gouging,
- without grinding,
- without re-welding,
- without rework,
- with a wide root gap,
- with a bigger root thickness permits higher welding current for the hotpass.





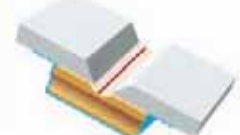


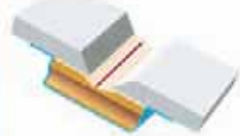


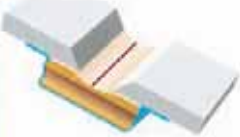


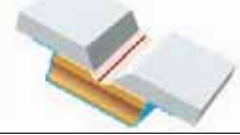
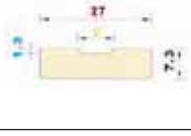

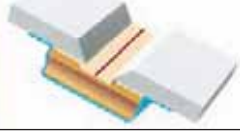
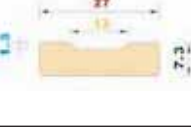

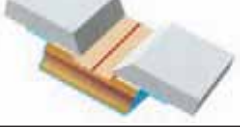
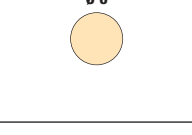

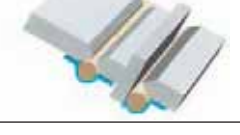
The use of the ceramic backings enables welding with higher intensity.

The quality of the weld bead will be improved:

- higher penetration,
- minimum risk of lack of fusion,
- smooth profile of the root pass.





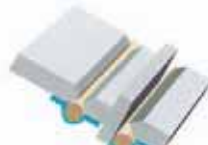
## Aluminium tape




Cat. n°	Type	Dimensions (mm)	3D diagram	Application	Packing							
W 000 010 391	<b>KERALINE TA1 - 6 mm</b>				600 mm / piece 10 pieces per bag (6 meters) 6 bags/carton (36 meters)							
	<table border="1"> <tr> <th colspan="4">Suitable welding process</th> </tr> <tr> <th>MMA</th> <th>TIG</th> <th>MIG MAG</th> <th>SAW</th> </tr> <tr> <td>no</td> <td>yes</td> <td>yes</td> <td>no</td> </tr> </table>					Suitable welding process				MMA	TIG	MIG MAG
Suitable welding process												
MMA	TIG	MIG MAG	SAW									
no	yes	yes	no									
W 000 010 392	<b>KERALINE TA2 - 9 mm</b>				600 mm / piece 10 pieces per bag (6 meters) 6 bags/carton (36 meters)							
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Suitable welding process												
MMA	TIG	MIG MAG	SAW									
no	yes	yes	no									
W 000 010 393	<b>KERALINE TA3 - 13 mm</b>				600 mm / piece 10 pieces per bag (6 meters) 6 bags/carton (36 meters)							
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Suitable welding process												
MMA	TIG	MIG MAG	SAW									
yes	no	yes	no									
W 000 010 394	<b>KERALINE TF1 - 6 mm</b>				600 mm / piece 10 pieces per bag (6 meters) 6 bags/carton (36 meters)							
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Suitable welding process												
MMA	TIG	MIG MAG	SAW									
no	yes	yes	no									
W 000 010 395	<b>KERALINE TF2 - 9 mm</b>				600 mm / piece 10 pieces per bag (6 meters) 6 bags/carton (36 meters)							
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Suitable welding process												
MMA	TIG	MIG MAG	SAW									
no	yes	yes	no									
W 000 010 396	<b>KERALINE TF3 - 13 mm</b>				600 mm / piece 10 pieces per bag (6 meters) 6 bags/carton (36 meters)							
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Suitable welding process												
MMA	TIG	MIG MAG	SAW									
yes	no	yes	no									
W 000 010 397	<b>KERALINE TR1 - 6 mm</b>	 <p style="text-align: center;">Ø 6</p>			600 mm / piece 50 pieces per bag (30 meters) 5 bags/carton (150 meters)							
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Suitable welding process												
MMA	TIG	MIG MAG	SAW									
yes	no	yes	no									









# Ceramic backings




## Aluminium tape

Cat. n°	Type	Dimensions (mm)	3D diagram	Application	Packing							
W 000 010 398	<b>KERALINE TR2 - 7 mm</b>				600 mm / piece 50 pieces per bag (30 meters) 5 bags/carton (150 meters)							
	<table border="1"> <tr><th colspan="4">Suitable welding process</th></tr> <tr><th>MMA</th><th>TIG</th><th>MIG MAG</th><th>SAW</th></tr> <tr><td>yes</td><td>no</td><td>yes</td><td>no</td></tr> </table>					Suitable welding process				MMA	TIG	MIG MAG
Suitable welding process												
MMA	TIG	MIG MAG	SAW									
yes	no	yes	no									



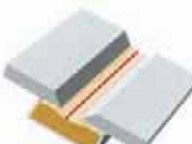
Cat. n°	Type	Dimensions (mm)	3D diagram	Application	Packing							
W 000 010 399	<b>KERALINE TR3 - 8 mm</b>				600 mm / piece 20 pieces per bag (12 meters) 8 bags/carton (96 meters)							
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Suitable welding process												
MMA	TIG	MIG MAG	SAW									
yes	no	yes	no									



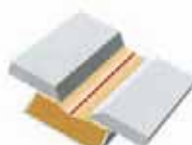
Cat. n°	Type	Dimensions (mm)	3D diagram	Application	Packing							
W 000 010 400	<b>KERALINE TR4 - 9 mm</b>				600 mm / piece 20 pieces per bag (12 meters) 7 bags/carton (84 meters)							
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Suitable welding process												
MMA	TIG	MIG MAG	SAW									
yes	no	yes	no									

Cat. n°	Type	Dimensions (mm)	3D diagram	Application	Packing							
W 000 010 401	<b>KERALINE TR5 - 12 mm</b>				600 mm / piece 20 pieces per bag (12 meters) 5 bags/carton (60 meters)							
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Suitable welding process												
MMA	TIG	MIG MAG	SAW									
yes	no	yes	no									

Cat. n°	Type	Dimensions (mm)	3D diagram	Application	Packing							
W 000 010 402	<b>KERALINE TR6 - 15 mm</b>				600 mm / piece 15 pieces per bag (9 meters) 5 bags/carton (45 meters)							
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Suitable welding process												
MMA	TIG	MIG MAG	SAW									
yes	no	yes	no									

## Metallic support

Cat. n°	Type	Dimensions (mm)	3D diagram	Application	Packing							
W 000 010 403	<b>KERALINE TM1 - 13 mm</b>				600 mm / piece 10 pieces per bag (6 meters) 7 bags/carton (42 meters)							
	<table border="1"> <tr><th colspan="4">Suitable welding process</th></tr> <tr><th>MMA</th><th>TIG</th><th>MIG MAG</th><th>SAW</th></tr> <tr><td>yes</td><td>yes</td><td>yes</td><td>yes</td></tr> </table>					Suitable welding process				MMA	TIG	MIG MAG
Suitable welding process												
MMA	TIG	MIG MAG	SAW									
yes	yes	yes	yes									

Cat. n°	Type	Dimensions (mm)	3D diagram	Application	Packing							
W 000 010 404	<b>KERALINE TM2 - 18 mm</b>				600 mm / piece 9 pieces per bag (5.4 meters) 5 bags/carton (27 meters)							
	<table border="1"> <tr><th colspan="4">Suitable welding process</th></tr> <tr><th>MMA</th><th>TIG</th><th>MIG MAG</th><th>SAW</th></tr> <tr><td>yes</td><td>yes</td><td>yes</td><td>yes</td></tr> </table>					Suitable welding process				MMA	TIG	MIG MAG
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MMA	TIG	MIG MAG	SAW									
yes	yes	yes	yes									