

SIPAM

FIRE STOP LINE

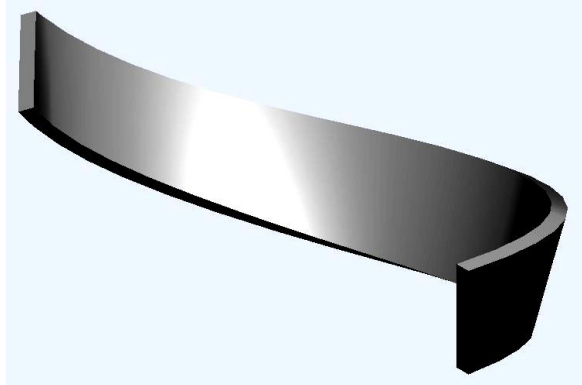
FEBRUARY 2009

INTUMESCENT SEALS - TECHNICAL INFORMATIONS

The intumescent seals possess the property of expanding significantly their volume when exposed to elevated temperatures.

They must be incombustible or flame-retardant.

As well as heat resistance, they must also offer a good mechanical resistance.



They must therefore simplify installation on frames at normal atmospheric and operating temperatures, but, at the same time, remain securely in place during the expansion phase of the same, due to effect of the heat and (or) the fire at high temperatures.

In other words, following expansion the seal must remain in position to seal off the rooms while withstanding the mechanical stresses to which they are subjected as a result of the fire.

At 450°C with fire load, the product forms a stable, slightly elastic and porous foam.

The expansion pressure and the onset of foaming commence at a temperature of approximately 180°C but, above this temperature, it starts hardening once more, and becomes substantially harder than the original material.

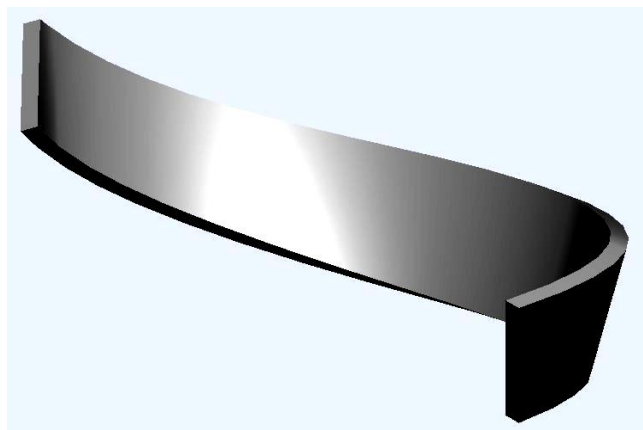
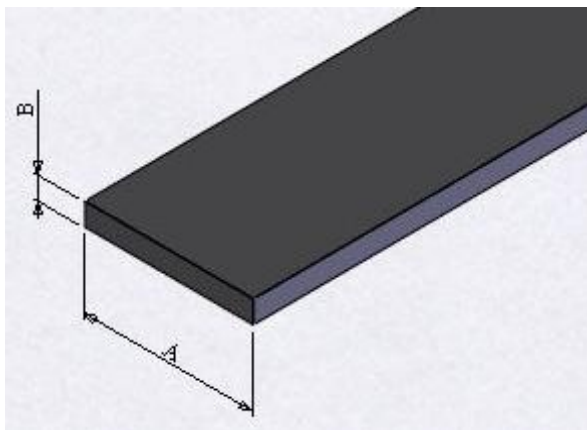
MATERIAL USED

- PVC resin
- Plasticizers
- Intumescent and flame-retardant graphite
- Flame-retardant fillers
- Ecological heat stabilizers
- Inert resin for improved component bonding

PERFORMANCE

- Ratio between the initial volume when cold and volume at maximum expansion 1:10
- Average expansion pressure : 5 bar
- Totally water resistant
- Absence of organic solvents
- Flame-retardant

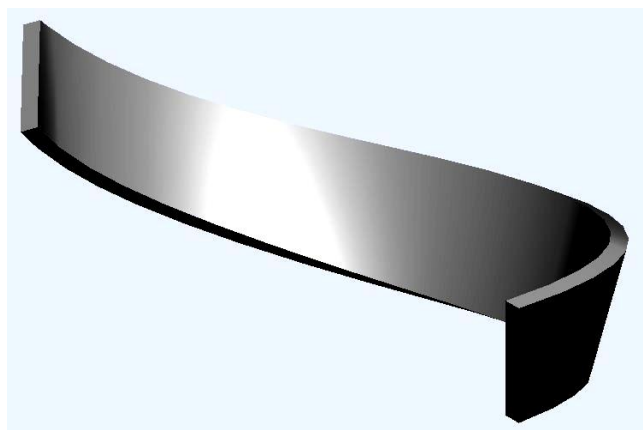
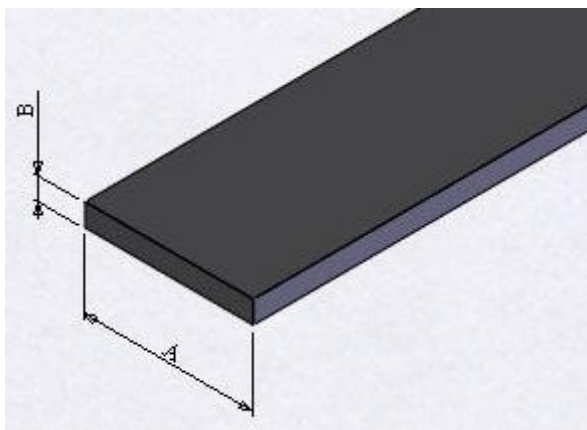
INTUMESCENT SEALS WITH ADHESIVE



SUPPLIED IN COILS

AxB	PRODUCT CODE	METERS PER BOX
9x2	SPM210920A	10x100
10x2	SPM211020A	10x100
14x2	SPM211420A	7x100
15x1,5	SPM211515A	7x100
15x2	SPM211520A	7x100
17,7x1,6	SPM211716A	6x100
17x2	SPM211720A	6x100
20x1,5	SPM212015A	6x100
20x2	SOM212020A	6x100
20x2,5	SPM212025A	6x100
20x3	SPM212030A	6x100
20x4	SPM212040A	6x100
24x2	SPM212420A	5x100
25x1,5	SPM212515A	5x100
27x2	SPM212720A	4x100
27x2,5	SPM212725A	4x100
30x1,5	SPM213015A	4x100
30x2	SPM213020A	4x100
30x3	SPM213030A	4x80
30x4	SPM213040A	4x80
30x5	SPM213050A	4x80
34x2	SPM213420A	4x100
35x2	SPM213520A	3x100
40x2	SPM214020A	3x100
40x3,2	SPM214032A	3x100
45x2	SPM214520A	3x100

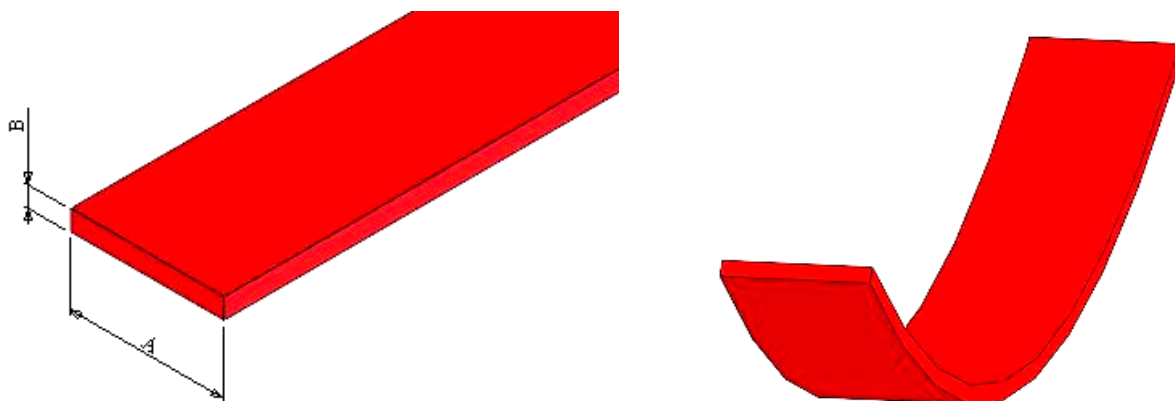
INTUMESCENT SEALS WITHOUT ADHESIVE



SUPPLIED IN COILS

AxB	PRODUCT CODE	METERS PER BOX
9x2	SPM210920	10x100
10x2	SPM211020	10x100
14x2	SPM211420	7x100
15x1,5	SPM211515	7x100
15x2	SPM211520	7x100
17,7x1,6	SPM211716	6x100
17x2	SPM211720	6x100
20x1,5	SPM212015	6x100
20x2	SOM212020	6x100
20x2,5	SPM212025	6x100
20x3	SPM212030	6x100
20x4	SPM212040	6x100
24x2	SPM212420	5x100
25x1,5	SPM212515	5x100
27x2	SPM212720	4x100
27x2,5	SPM212725	4x100
30x1,5	SPM213015	4x100
30x2	SPM213020	4x100
30x3	SPM213030	4x80
30x4	SPM213040	4x80
30x5	SPM213050	4x80
34x2	SPM213420	4x100
35x2	SPM213520	3x100
40x2	SPM214020	3x100
40x3,2	SPM214032	3x100
45x2	SPM214520	3x100

CO-EXTRUDED INTUMESCENT SEALS WITHOUT ADHESIVE



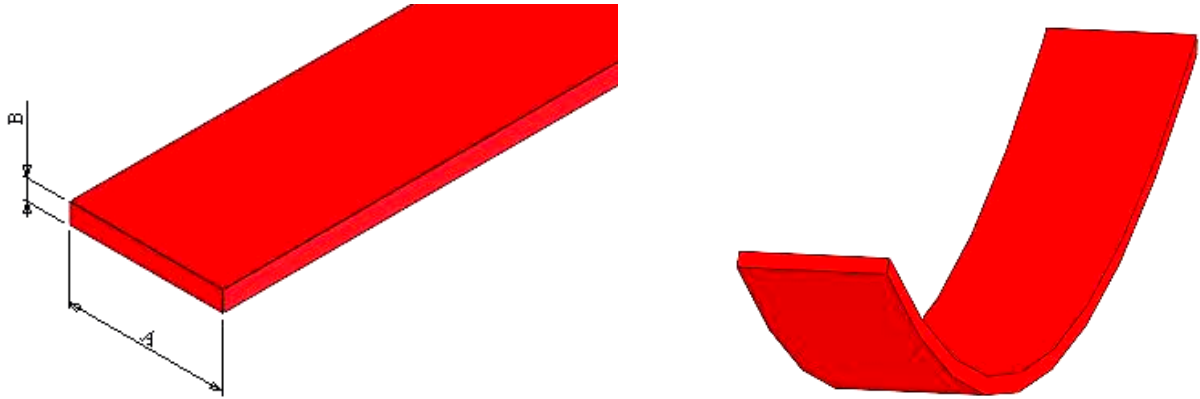
SUPPLIED IN COILS

AVAILABLE IN 7 DIFFERENT COLOURS :

BLACK , WHITE , RED , BEIGE , LIGHT BROWN , DARK BROWN , SILVER

<i>AxB</i>	<i>PRODUCT CODE</i>	<i>METERS PER BOX</i>
10x2	SPM221020	10x100
15x2	SPM221520	7x100
17x2	SPM221720	6x100
18x2	SPM221820	6x100
20x2	SPM222020	6x100
30x2	SPM223020	4x100
40x2	SPM224020	3x100

CO-EXTRUDED INTUMESCENT SEALS WITH ADHESIVE



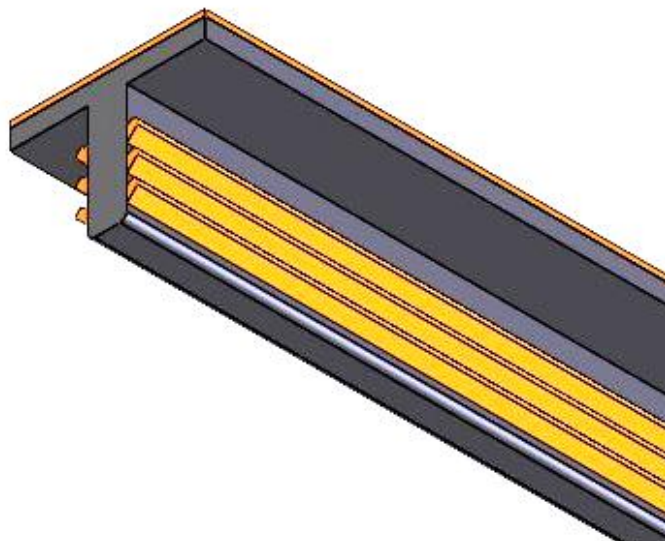
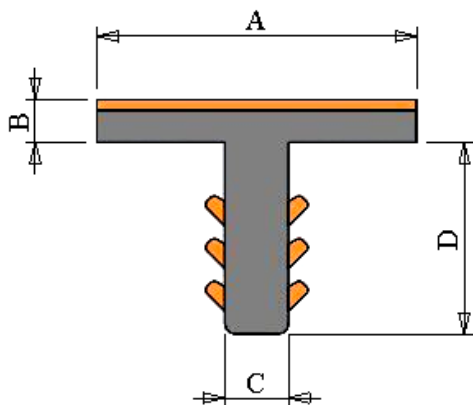
SUPPLIED IN COILS

AVAILABLE IN 7 DIFFERENT COLOURS :

BLACK , WHITE , RED , BEIGE , LIGHT BROWN , DARK BROWN , SILVER

<i>AxB</i>	<i>PRODUCT CODE</i>	<i>METERS PER BOX</i>
10x2	SPM221020A	10x100
15x2	SPM221520A	7x100
17x2	SPM221720A	6x100
18x2	SPM221820A	6x100
20x2	SPM222020A	6x100
30x2	SPM223020A	4x100
40x2	SPM224020A	3x100

WOOD INTUMESCENT SEALS



SUPPLIED IN COILS

AVAILABLE IN 7 DIFFERENT COLOURS :

BLACK , WHITE , RED , BEIGE , LIGHT BROWN , DARK BROWN

<i>AxB - CxD</i>	<i>PRODUCT CODE</i>	<i>METERS PER BOX</i>
10x2 - 3x9	SPM231020W	200
15x2 - 3x9	SPM231520W	200
20x2 - 3,2x9	SPM232020W	150

AUTOMATIC DOOR BOTTOM SEALS

PRODUCT CODE : 280SF

FIELD OF APPLICATION : ARMoured DOORS - SOUNDPROOF DOORS - SMOKEPROOF - FIREPROOF

OVERALL DIMENSIONS : 16x28x30 mm



MECHANISM : springs in couple with automatic levelling to the floor
EXTRACTABLE INTERNAL MECHANISM

EXTRUDED SHAPES in aluminium alloy EN AW 6060 T6
STANDARD LENGTHS : 400 - 600 - 800 - 1000 - 1200 mm
(EXTRA : MAX 1600 mm)

MAX REDUCTION = STANDARD LENGTH - 220 mm
SEAL WORKING STROKE = 12 mm

SEAL

EXTRUDED RUBBER SEAL : SPM18SL

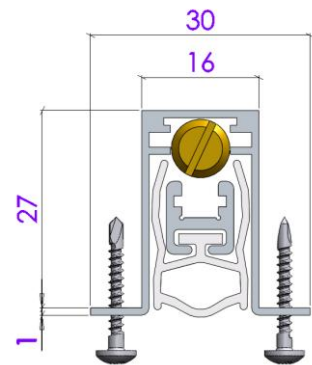
SILICONE MVQ COMPOUND ACCORDING TO UL 94 V0

(SELF EXTINGUISH)

ADJUSTABLE PUSH BUTTON OPTIONS

GEOMETRY : CYLINDRICAL - CUBICAL

MATERIAL : BRASS - GALVANIZED STEEL



PRODUCT CODE : 290SF

FIELD OF APPLICATION : ARMoured DOORS - SOUNDPROOF DOORS - SMOKEPROOF - FIREPROOF

OVERALL DIMENSIONS : 16x28 mm



MECHANISM : springs in couple with automatic levelling to the floor
EXTRACTABLE INTERNAL MECHANISM

EXTRUDED SHAPES in aluminium alloy EN AW 6060 T6
STANDARD LENGTHS : 400 - 600 - 800 - 1000 - 1200 mm
(EXTRA : MAX 1600 mm)

MAX REDUCTION = STANDARD LENGTH - 220 mm
SEAL WORKING STROKE = 10 mm

SEAL

EXTRUDED RUBBER SEAL : SPM18SL

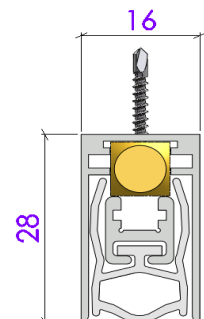
SILICONE MVQ COMPOUND ACCORDING TO UL 94 V0

(SELF EXTINGUISH)

ADJUSTABLE PUSH BUTTON OPTIONS

GEOMETRY : CYLINDRICAL - CUBICAL

MATERIAL : BRASS - GALVANIZED STEEL



TECHNICAL DATA SHEET OF MATERIAL USED TO EXTRUDE : SPM18SL

7813911

Silicone MVQ

Miscela autoestinguente secondo la norma UL 94 V0, in autocertificazione.

Material will meet the requirements of UL 94 V0, self assessment.

Material entspricht UL 94 V0, Selbsteinstufung.

La mélange selon la norme UL 94 V0, autoévaluation.

Proprietà/ Property Eigenschaft/Propriété	Normative Standards	Unità di misura Dimension	Valori medi Typical value
Durezza Hardness Härte Dureté	DIN 53505 DIN EN ISO 868	Shore A	70 ± 5
Densità Density Dichte Densité	DIN 53479 ISO/R 1183	gr / cm ³	1,25 ± 0,02
Carico di rottura Tensile strength Reißfestigkeit Résistance à la rupture	DIN 53504 ISO/DIS 37	MPa	5,5
Allungamento a rottura Elongation Reißdehnung Allongement à la rupture	DIN 53504 ISO/DIS 37	%	180
Lacerazione Tear strength Weiterreißwiderstand Résistance au déchirement	ASTM D 624 B	N/mm	11
Rigidità dielettrica Dielectric strength Durchschlagfestigkeit Rigidité diélectrique	VDE 0303	KV/mm	20
Temperatura d'esercizio Temperature range Einsatztemperatur Plage d'utilisation temperature	DIN 53479 ISO/R 1183	°C	- 40 ÷ + 200
Colore Colour Farbe Couleur	Nero o blu scuro Black or dark blue Schwarz oder Blauschwarz Noir ou bleu foncé		



UL94 V-0, V-1, V-2 FLAMMABILITY STANDARD

Procedure

1. A total of 10 specimens (2 sets) are tested per thickness.
2. Five specimens of each thickness are tested after conditioning for 48 hours at 23 degrees C and 50% RH.
3. Five specimens of each thickness are tested after conditioning for 7 days at 70 degrees C.
4. Each specimen is mounted with long axis vertical
5. Each specimen is supported such that its lower end is 10 mm above Bunsen burner tube.
6. A blue 20 mm high flame is applied to the center of the lower edge of the specimen for 10 seconds and removed. If burning ceases within 30 seconds, the flame is reapplied for an additional 10 seconds. If the specimen drips, particles are allowed to fall onto a layer of dry absorbent surgical cotton placed 300 mm below the specimen.

Requirements for V-0

1. The specimens may not burn with flaming combustion for more than 10 seconds after either application of the test flame.
2. The total flaming combustion time may not exceed 50 seconds for the 10 flame applications for each set of 5 specimens.
3. The specimens may not burn with flaming or glowing combustion up to the holding clamp.
4. The specimens may not drip flaming particles that ignite the dry absorbent surgical cotton located 300 mm below the test specimen.
5. The specimens may not have glowing combustion that persists for more than 30 seconds after the second removal of the test flame.

Requirements for V-1

1. The specimens may not burn with flaming combustion for more than 30 seconds after either application of the test flame.
2. The total flaming combustion time may not exceed 250 seconds for the 10 flame applications for each set of 5 specimens.
3. The specimens may not burn with flaming or glowing combustion up to the holding clamp.
4. The specimens may not drip flaming particles that ignite the dry absorbent surgical cotton located 300 mm below the test specimen.
5. The specimens may not have glowing combustion that persists for more than 60 seconds after the second removal of the test flame.

Requirements for V-2

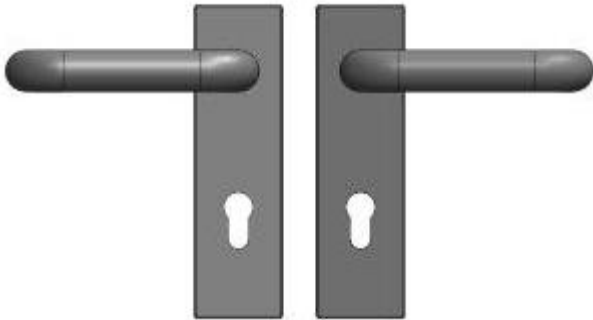
1. The specimens may not burn with flaming combustion for more than 30 seconds after either application of the test flame.
2. The total flaming combustion time may not exceed 250 seconds for the 10 flame applications for each set of 5 specimens.
3. The specimens may not burn with flaming or glowing combustion up to the holding clamp.
4. The specimens can drip flaming particles that ignite the dry absorbent surgical cotton located 300 mm below the test specimen.
5. The specimens may not have glowing combustion that persists for more than 60 seconds after the second removal of the test flame.

FIRE STOP DOOR HANDLES

APPLICATION FIELD

The handle kit is suitable for installation on doors with mortice locks that have a center distance of 72 mm and spindle of 9 mm.

PRODUCT CODE : SPM700



FIRE RESISTANT DOOR HANDLE IN BLACK PLASTIC MATERIAL

INTERNAL ELEMENT IN STEEL AND CYLINDER HOLE

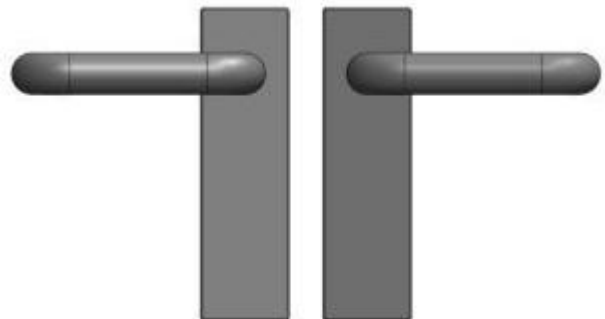
INSTALLATION ON DOOR WITH MORTICE LOCK THAT HAVE A CENTRE DISTANCE OF 72 mm AND SPINDLE OF 9 mm

PRODUCT CODE : SPM702

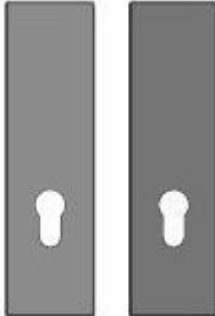
FIRE RESISTANT DOOR HANDLE IN BLACK PLASTIC MATERIAL

INTERNAL ELEMENT IN STEEL

INSTALLATION ON DOOR WITH SPINDLE OF 9 mm



PRODUCT CODE : SPM704



FIRE RESISTANT PLATE IN BLACK PLASTIC MATERIAL

INTERNAL ELEMENT IN STEEL AND CYLINDER HOLE

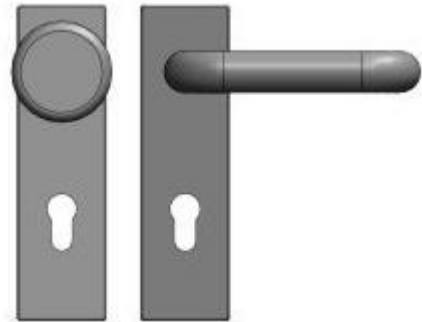
INSTALLATION ON DOOR WITH MORTICE LOCK

PRODUCT CODE : SPM705

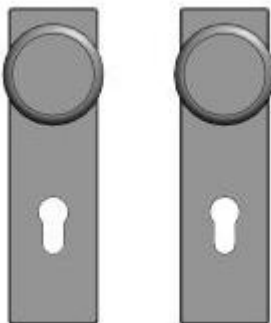
FIXED FIRE RESISTANT KNOB + FIRE RESISTANT DOOR HANDLE IN BLACK PLASTIC MATERIAL

INTERNAL ELEMENT IN STEEL AND CYLINDER HOLE

INSTALLATION ON DOOR WITH MORTICE LOCK THAT HAVE A CENTRE DISTANCE OF 72 mm AND SPINDLE OF 9 mm



PRODUCT CODE : SPM706



FIRE RESISTANT KNOB IN BLACK PLASTIC MATERIAL

INTERNAL ELEMENT IN STEEL AND CYLINDER HOLE

INSTALLATION ON DOOR WITH MORTICE LOCK



HANDLE KITS WAS TESTED ACCORDING TO DIN 18273

MATERIALS USED

Steel DC-02 for the internal metal element, the lock and the plate

Steel S235JR for the 9 mm squared spindle

Steel RST 36 DIN 17311 for the cylinder

Black PP 30% CaCO₃ for the plastic material

Aesthetical finishes :

RED PAINTED **

POLISHED WHITE PAINTED **

POLISHED BLACK

MATT BLACK

** ONLY FOR SPM700

SIPAM

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