

## PROFILE CATALOGUE





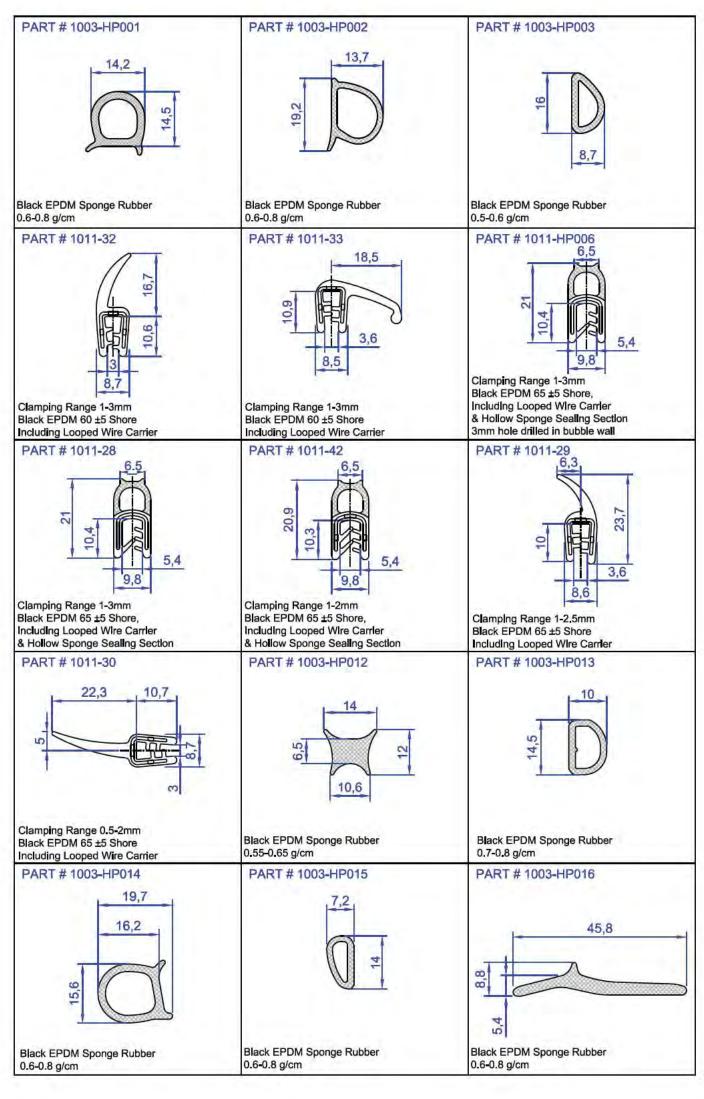


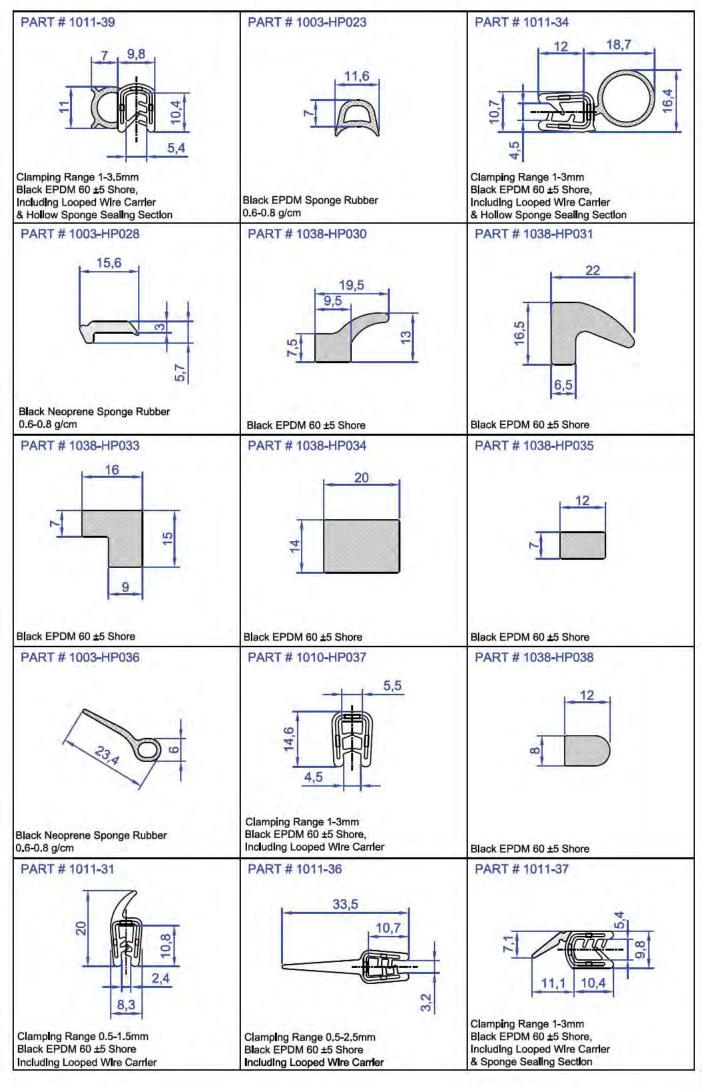
## EMKA (UK) Ltd

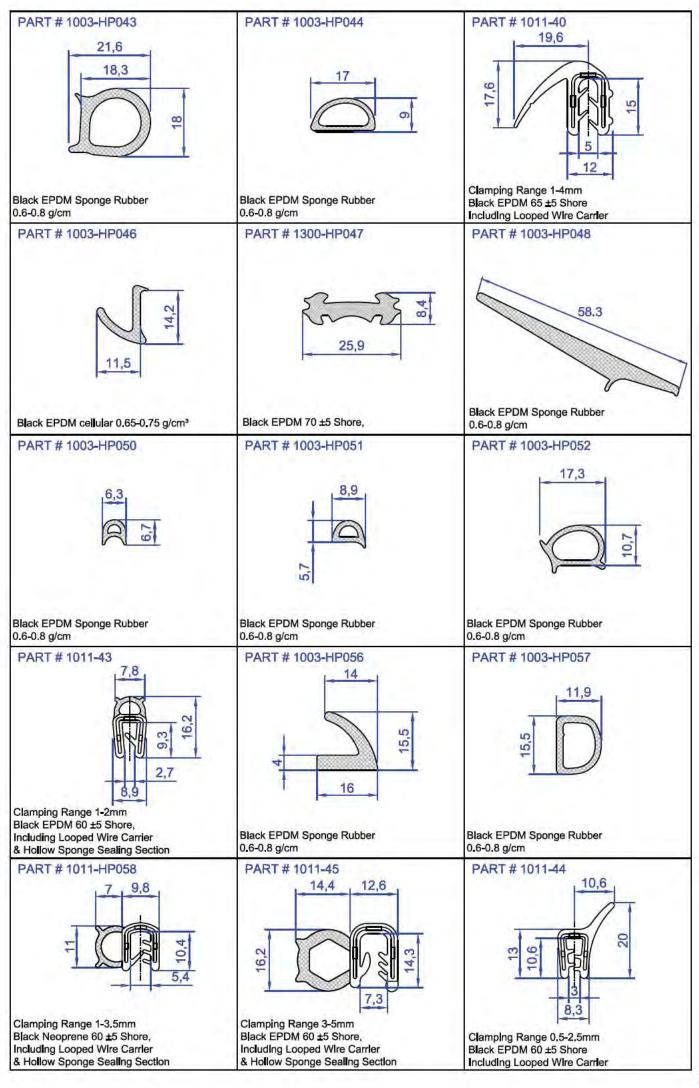
Patricia House Bodmin Road Coventry CV2 5DG West Midlands, England

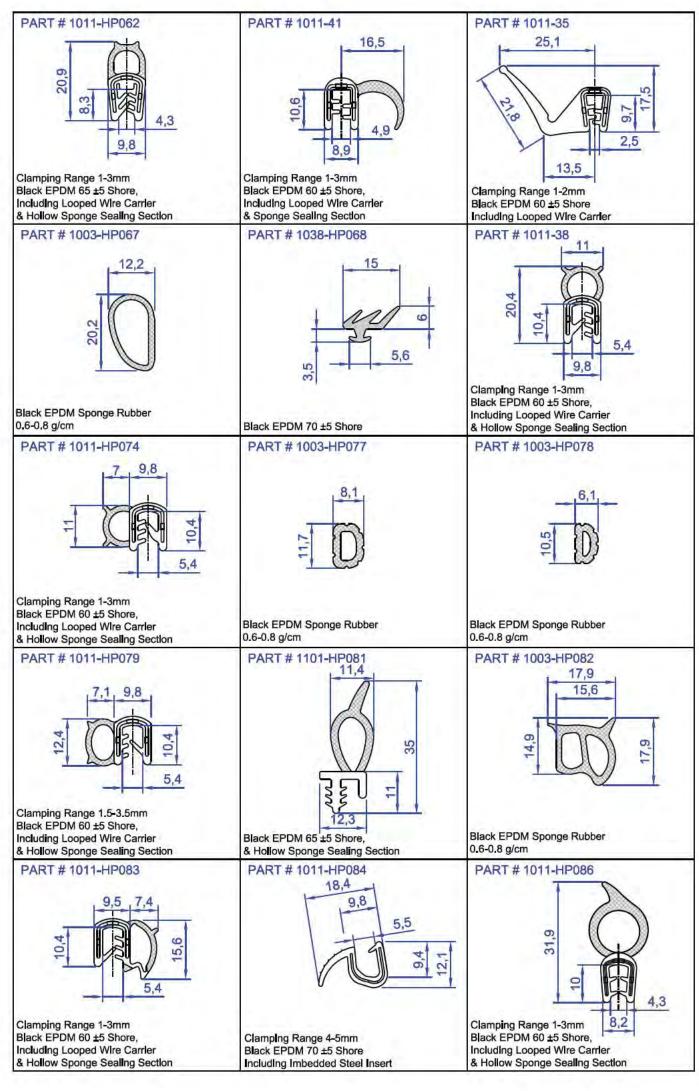
Tel: +44(0)24 7661 6505 Fax: +44(0)24 7661 2837

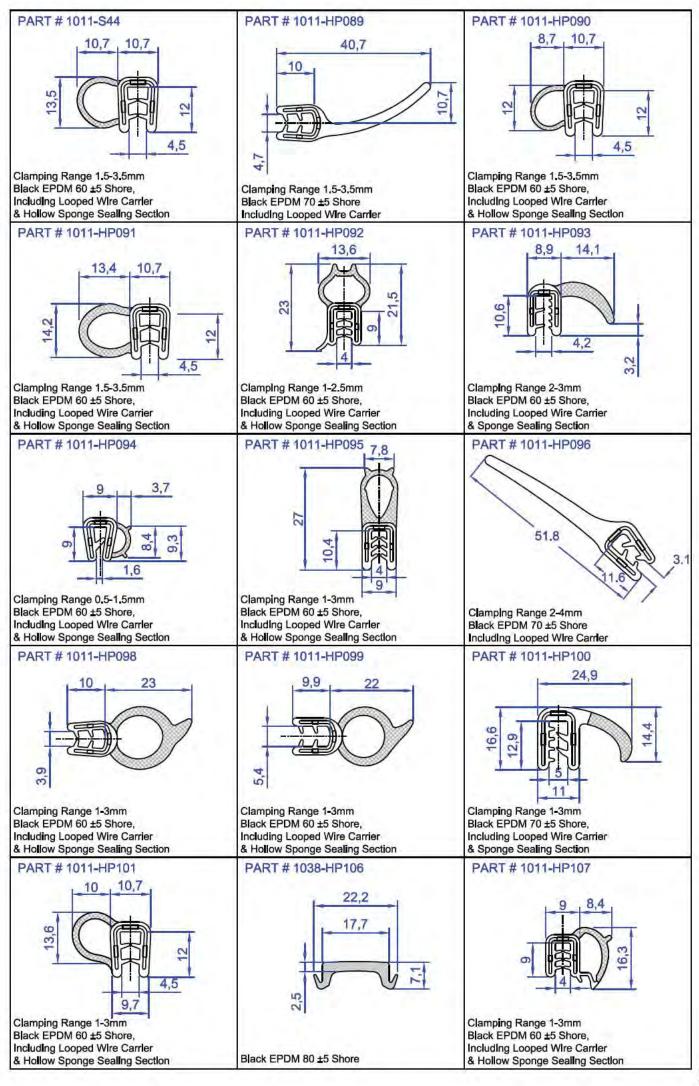
> Info@emka.co.uk www.emka.co.uk

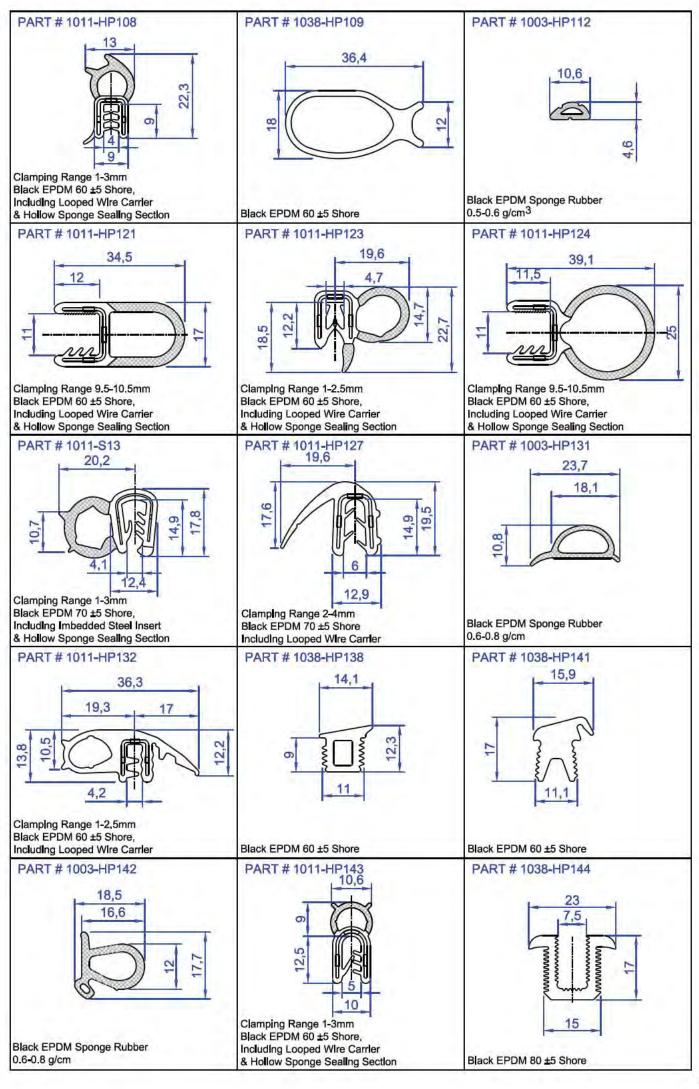


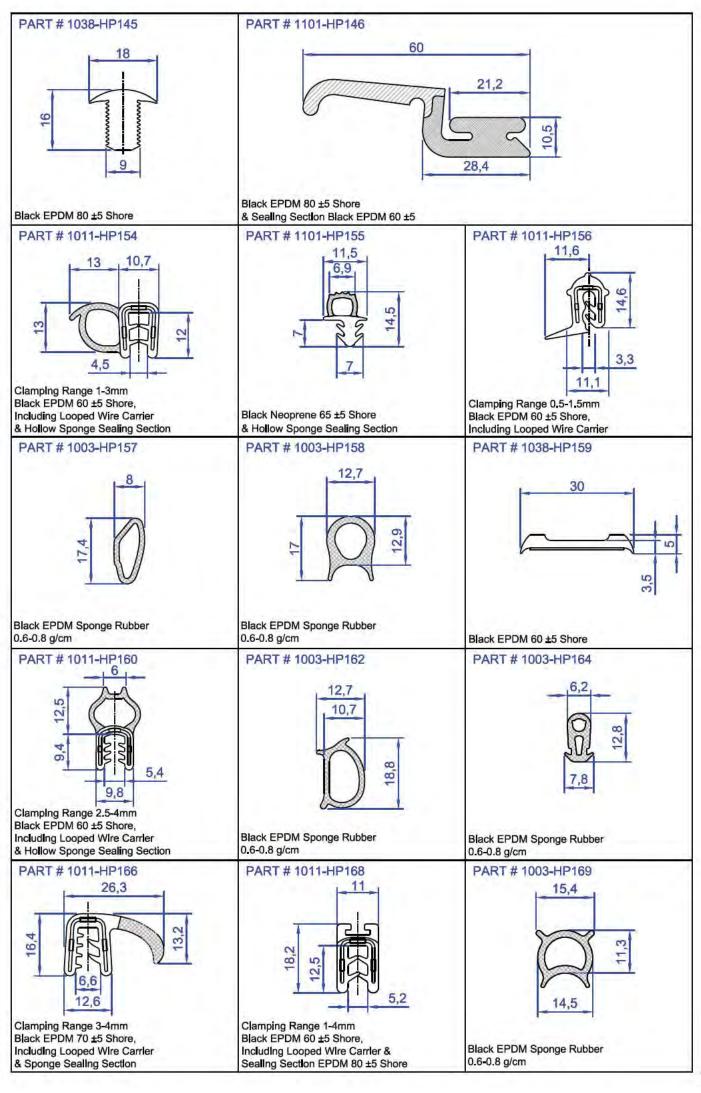


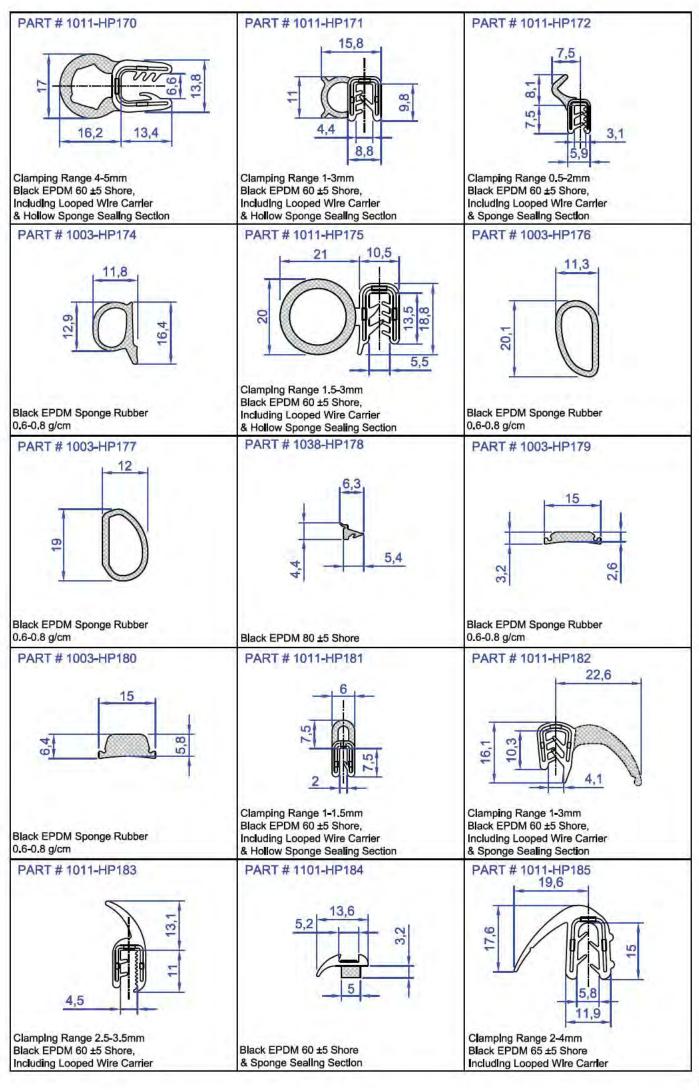


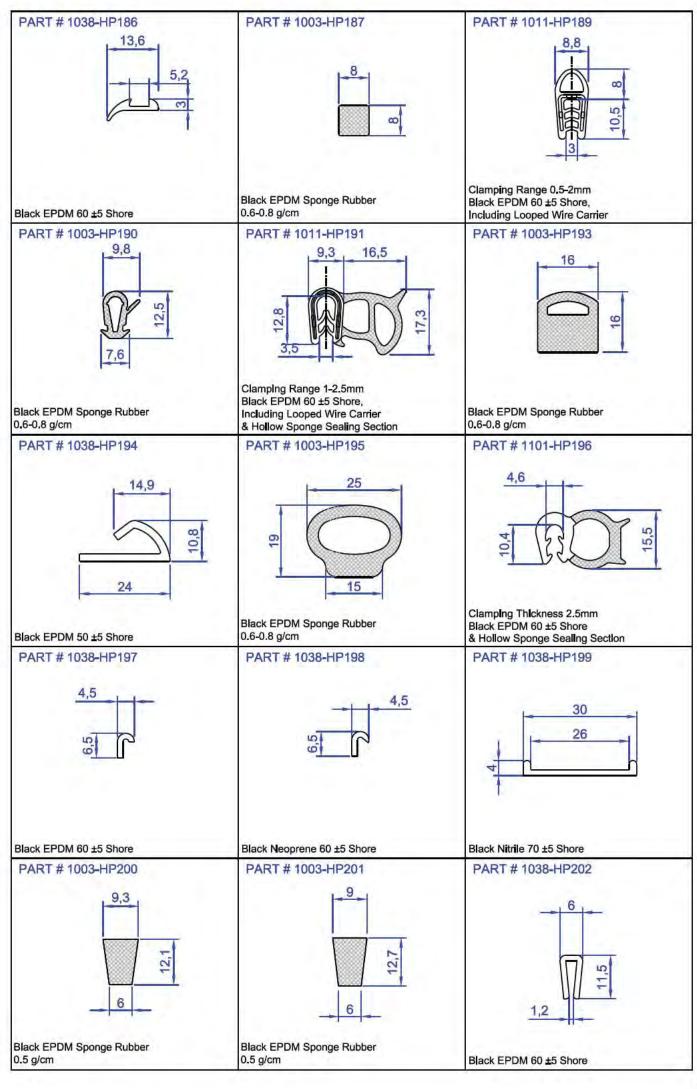


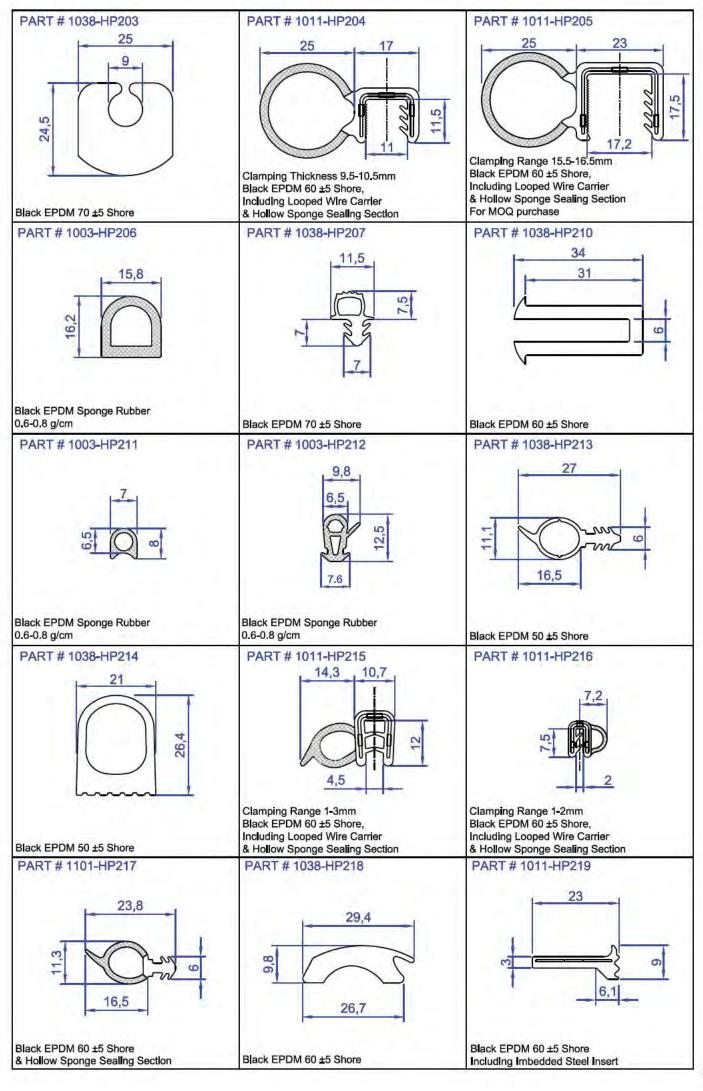


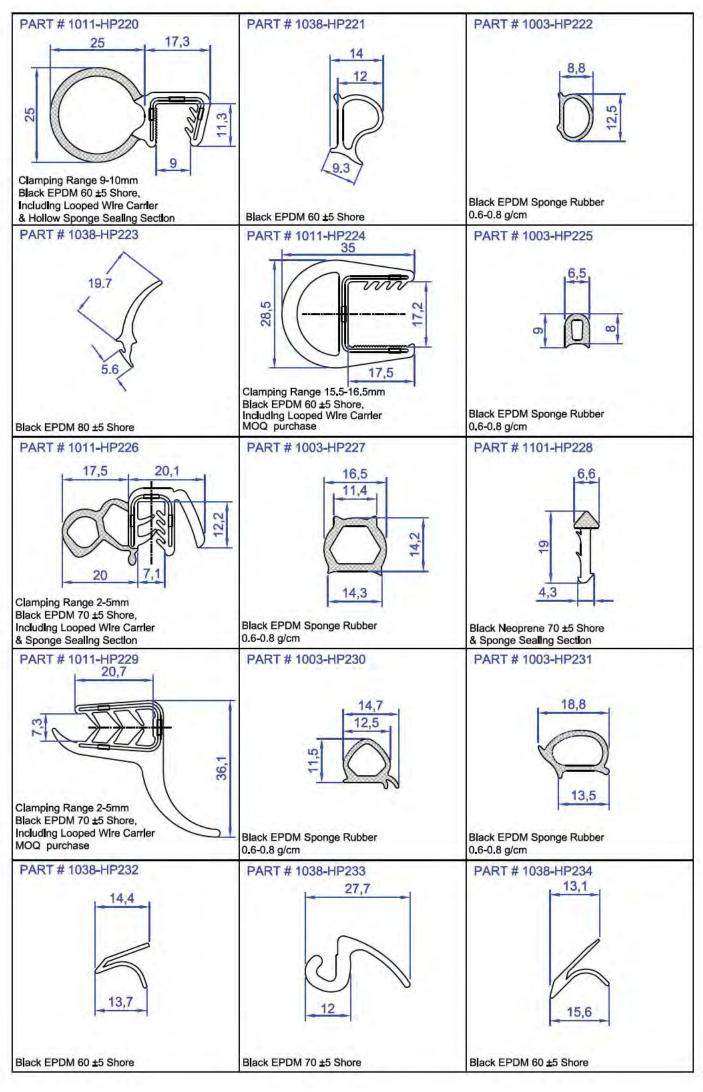


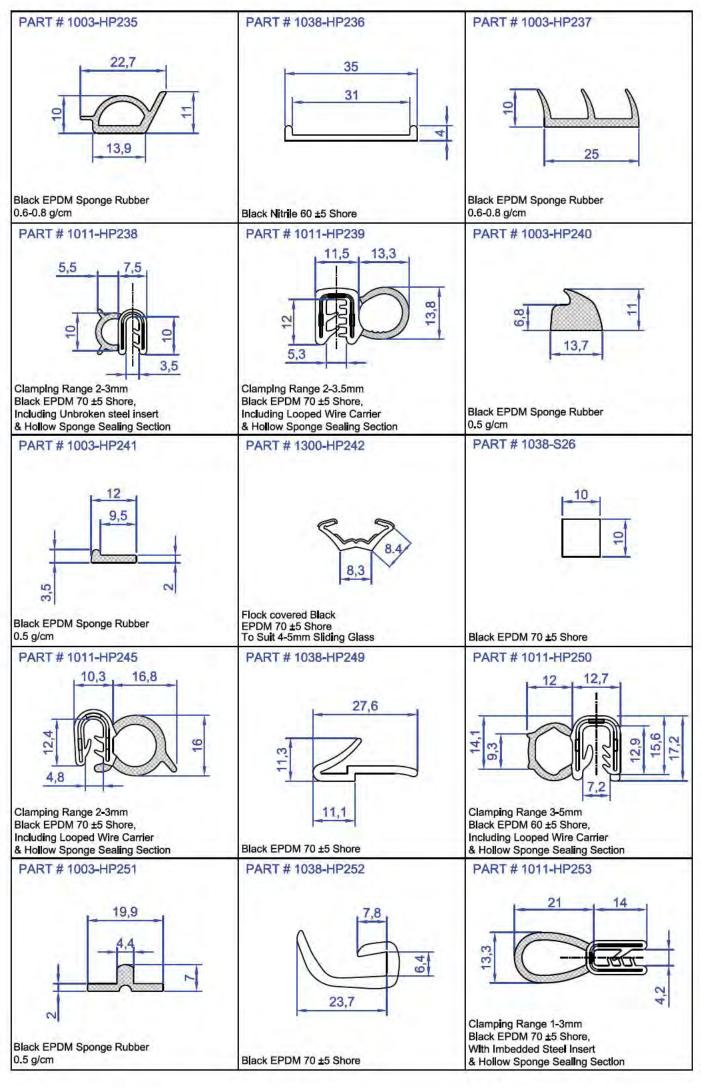


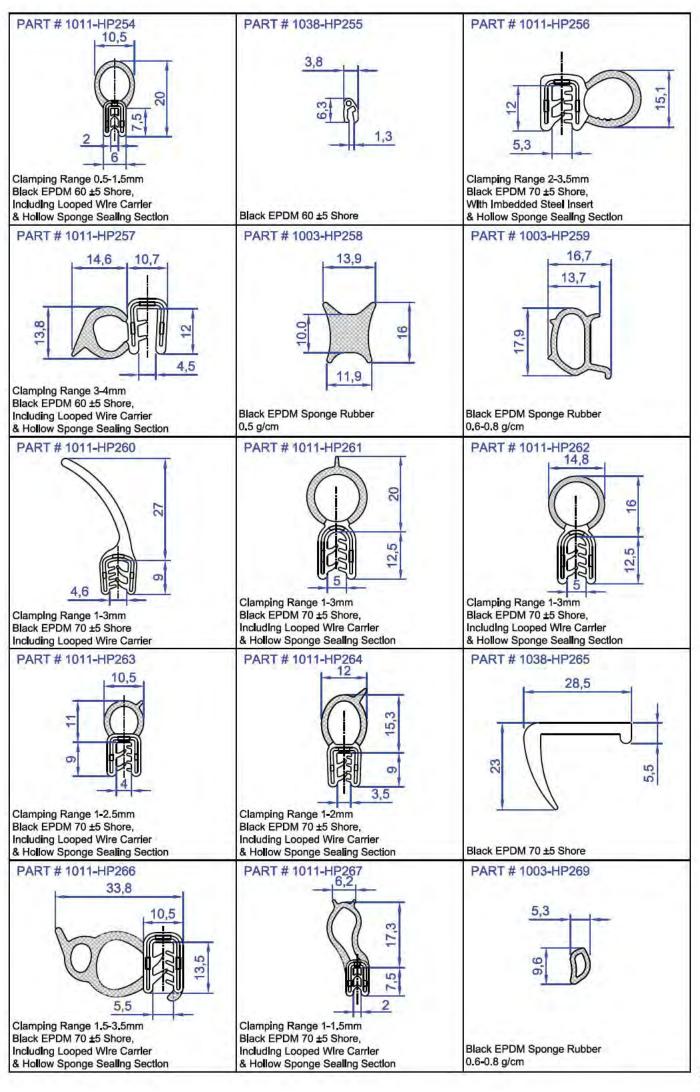


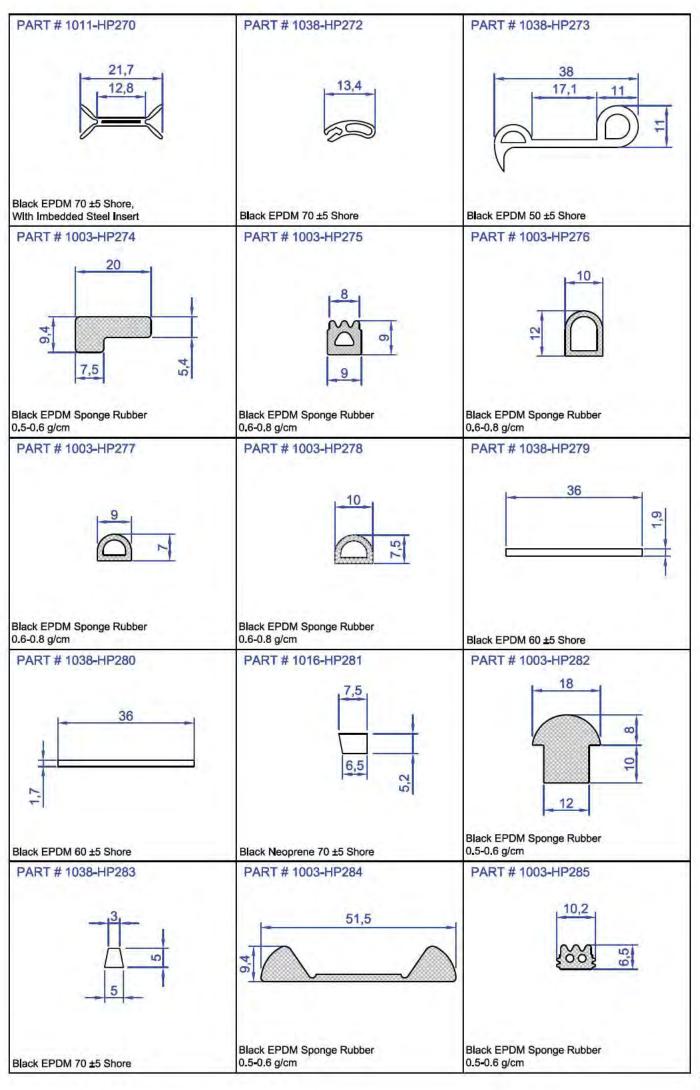


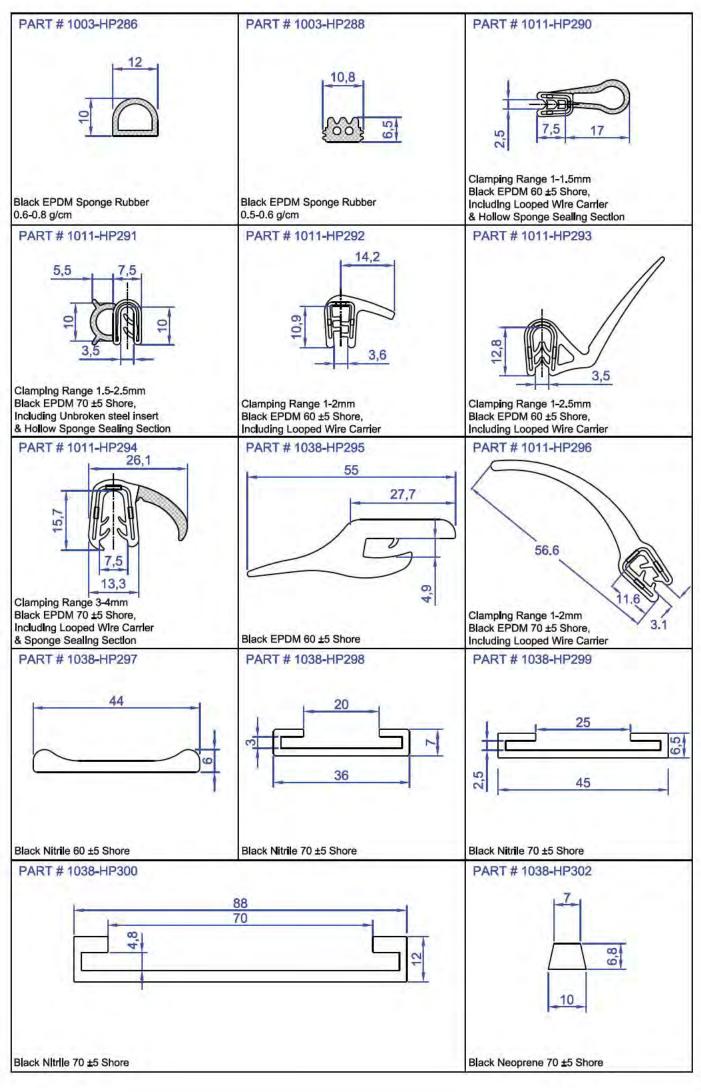


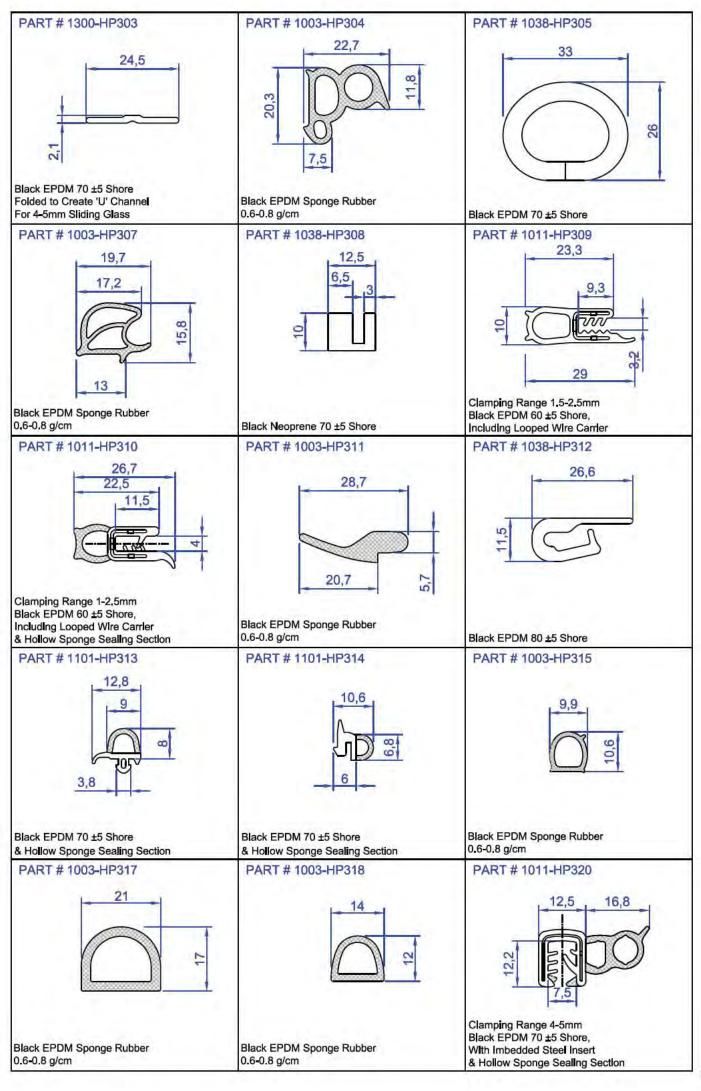


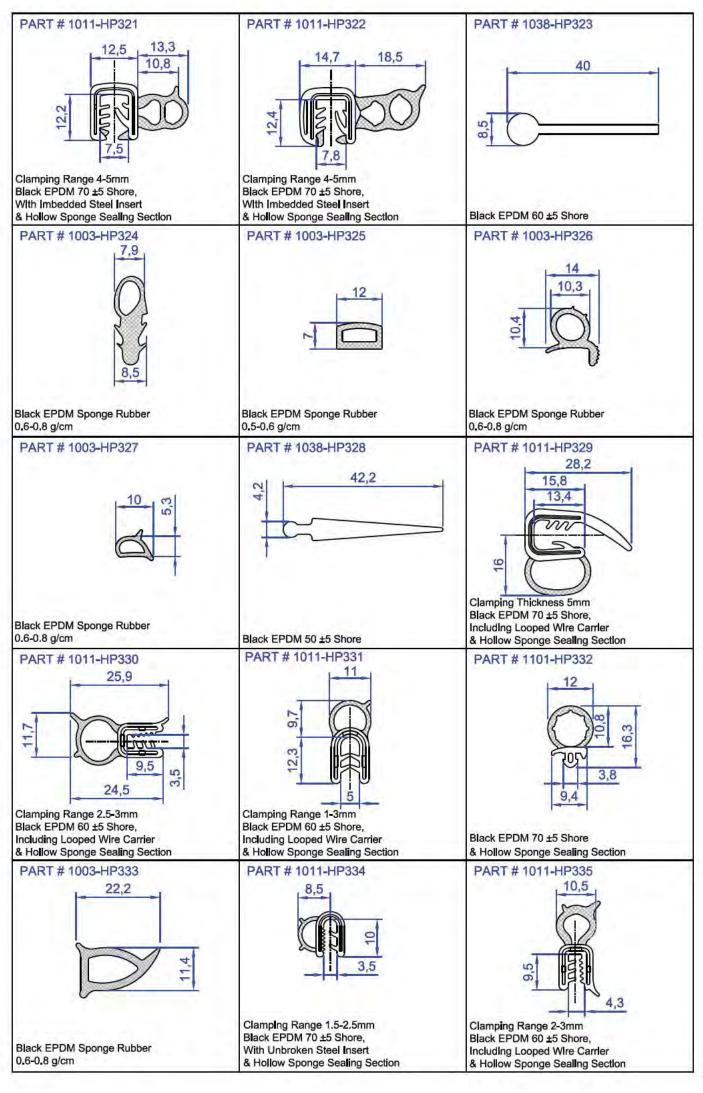


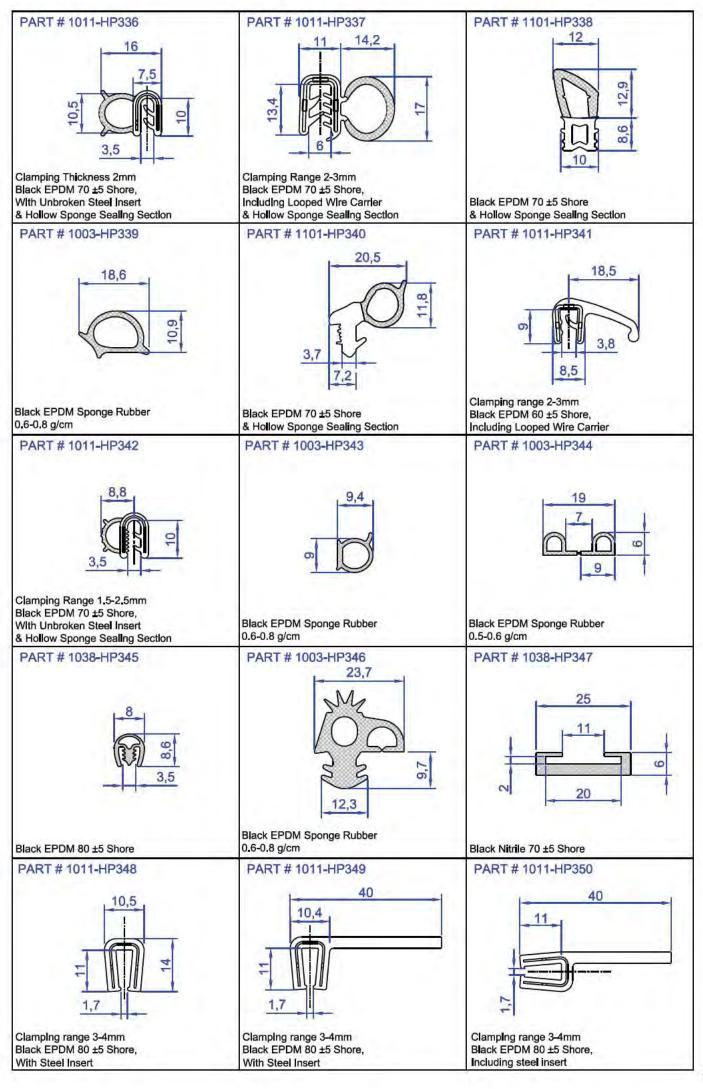


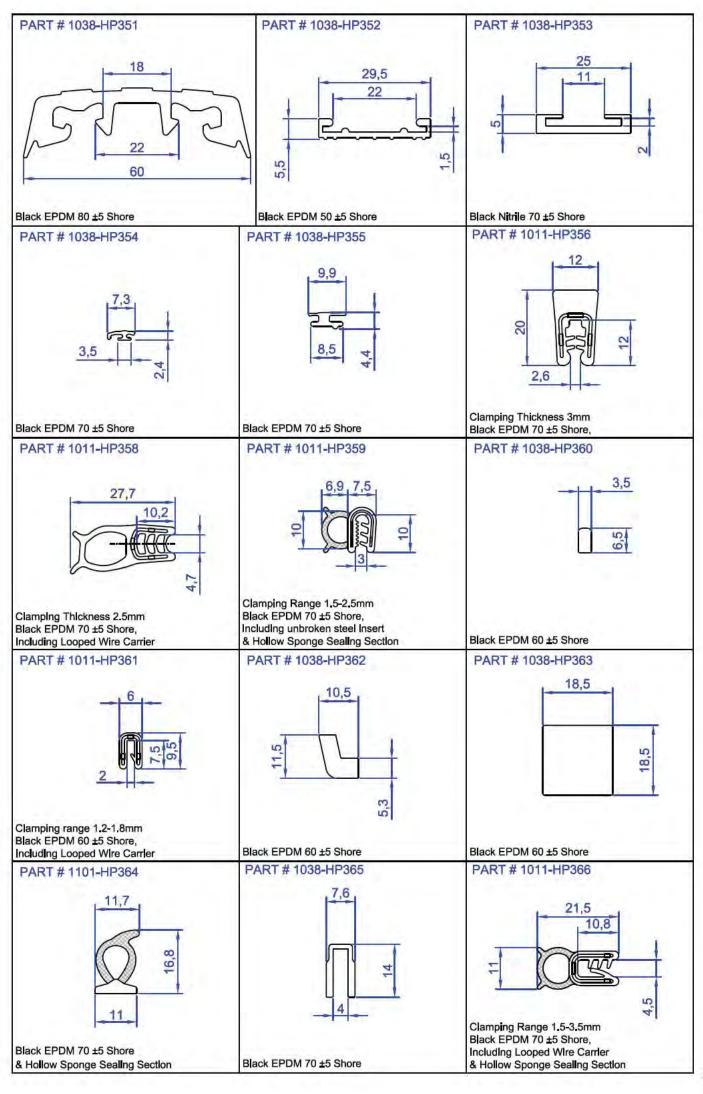


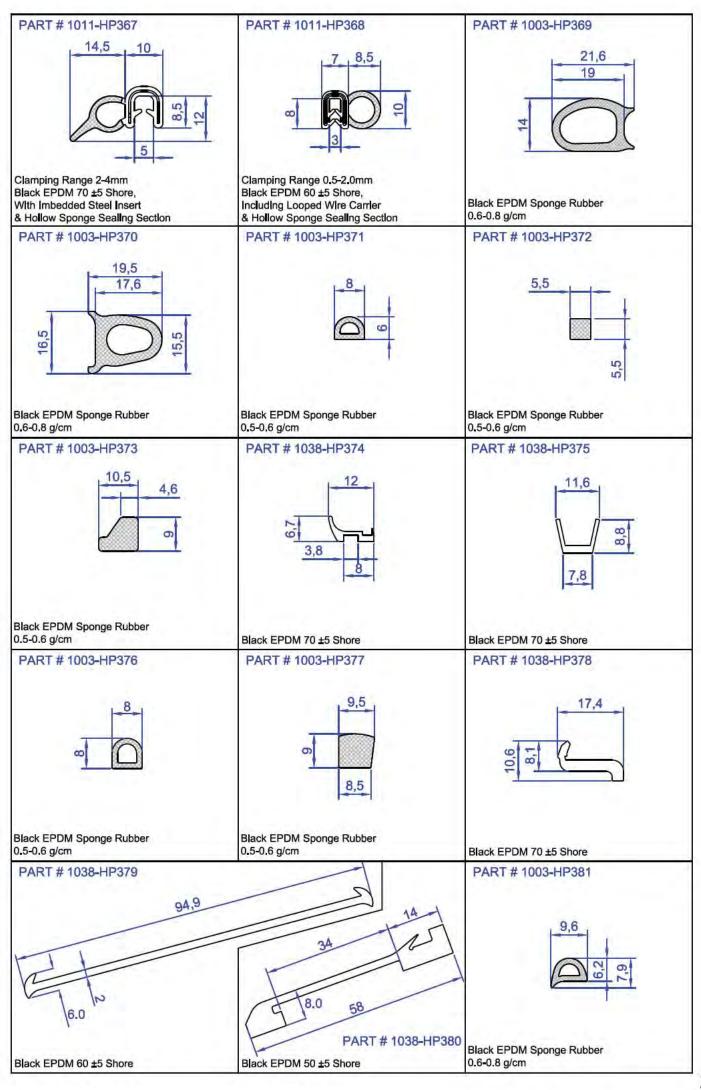


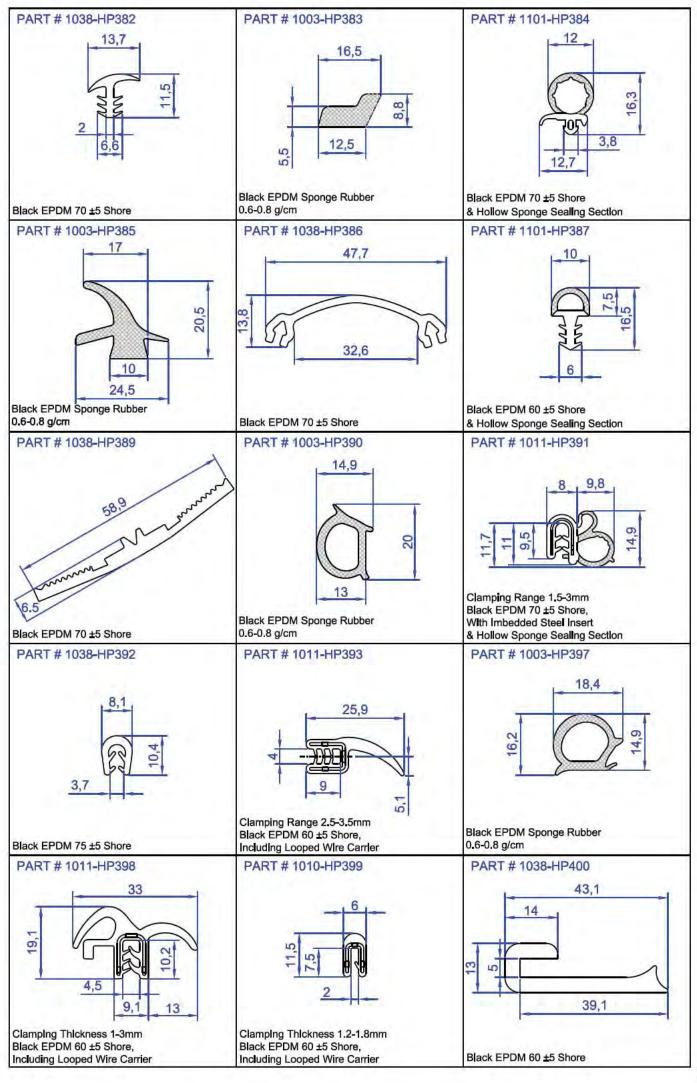


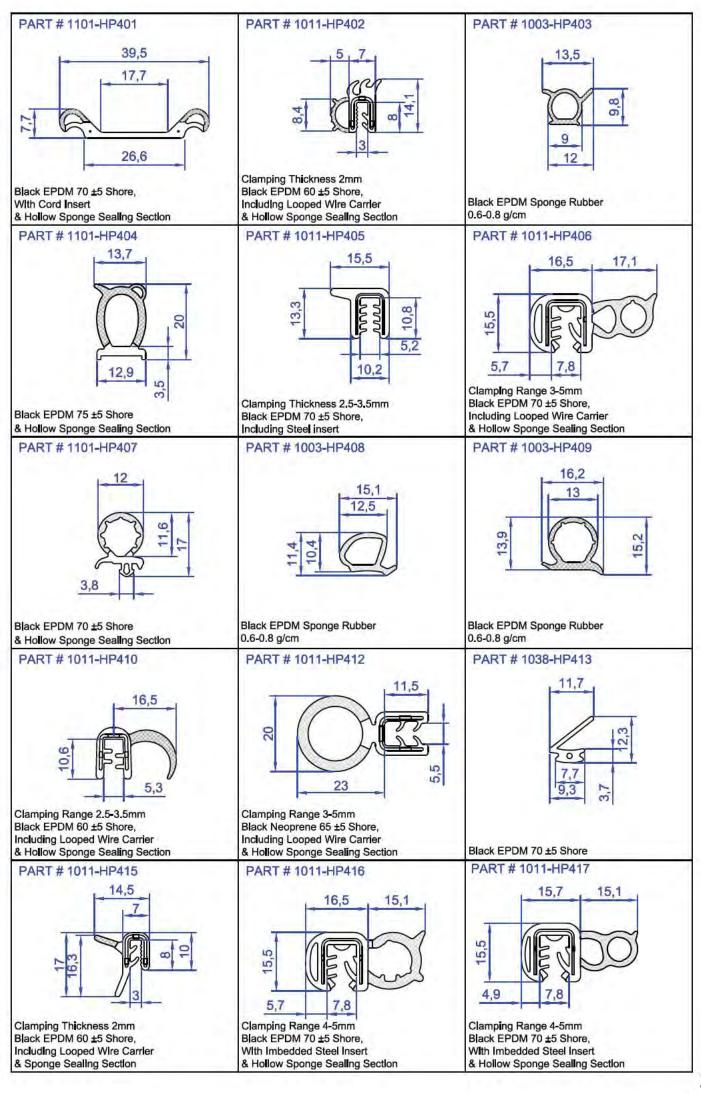


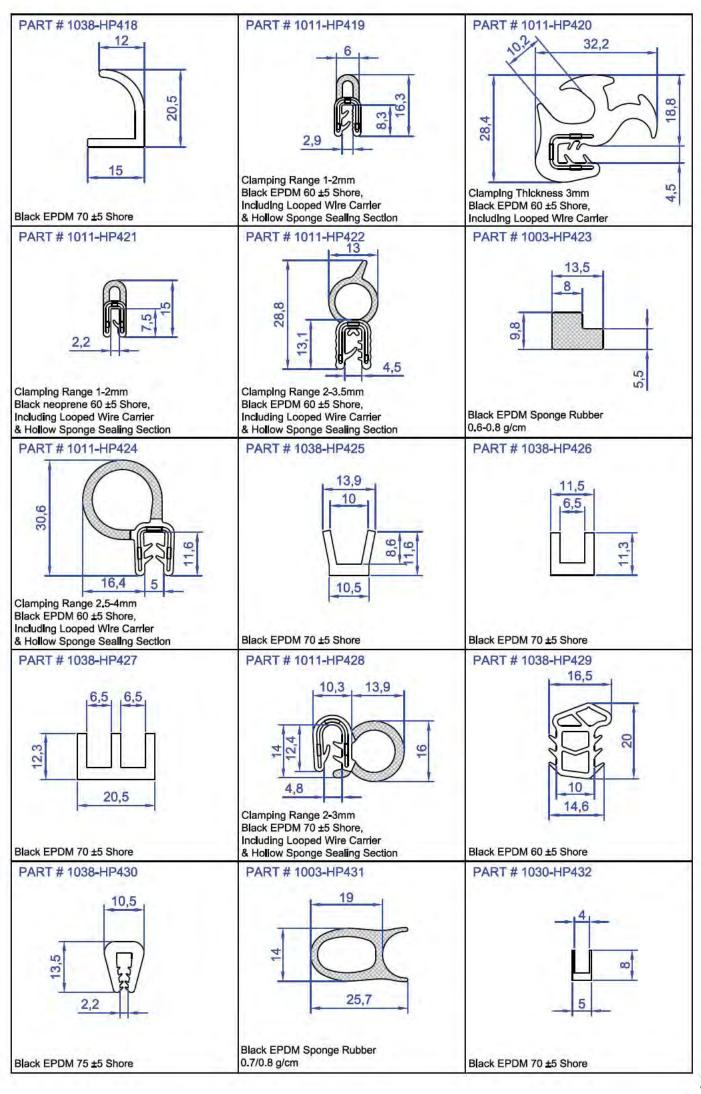


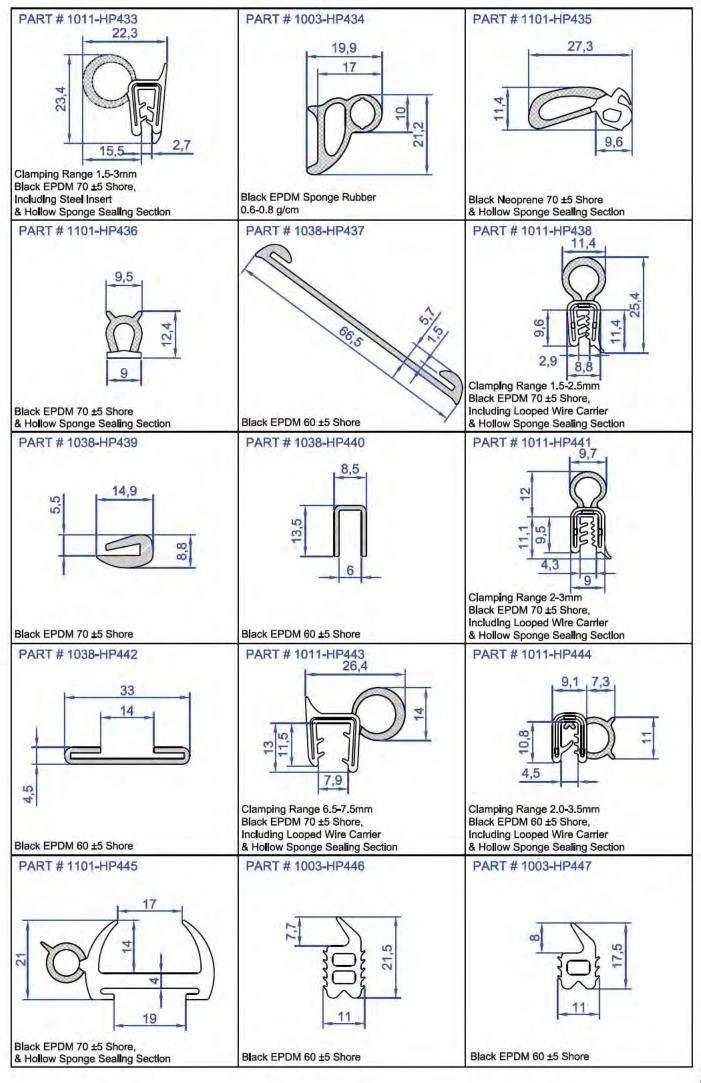


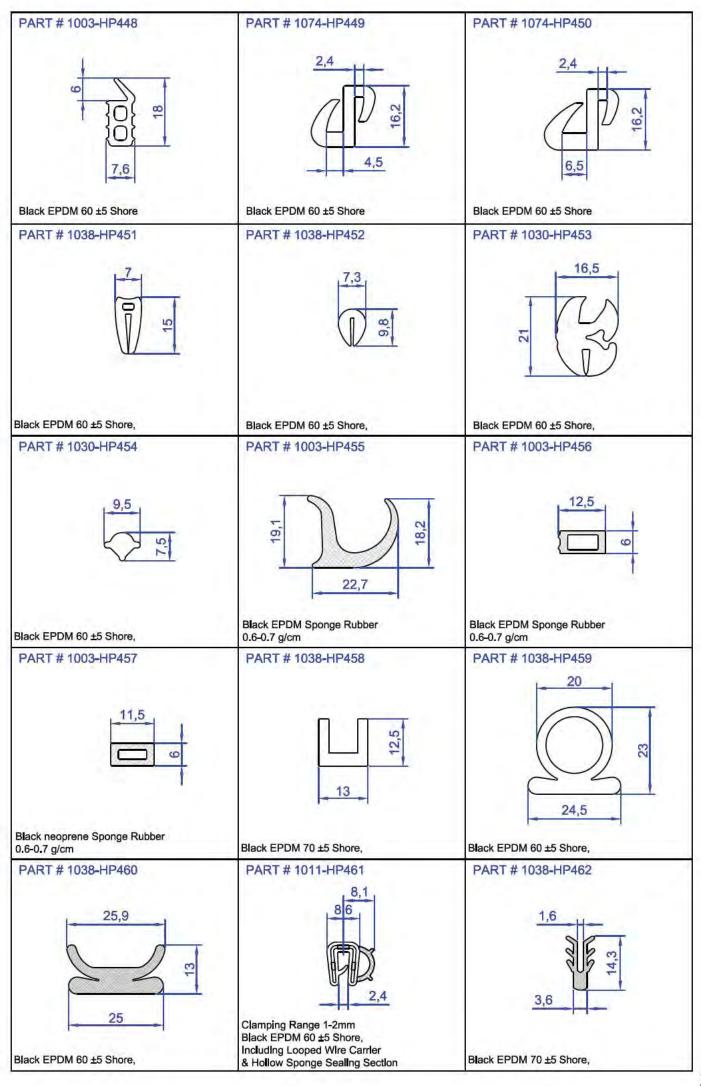


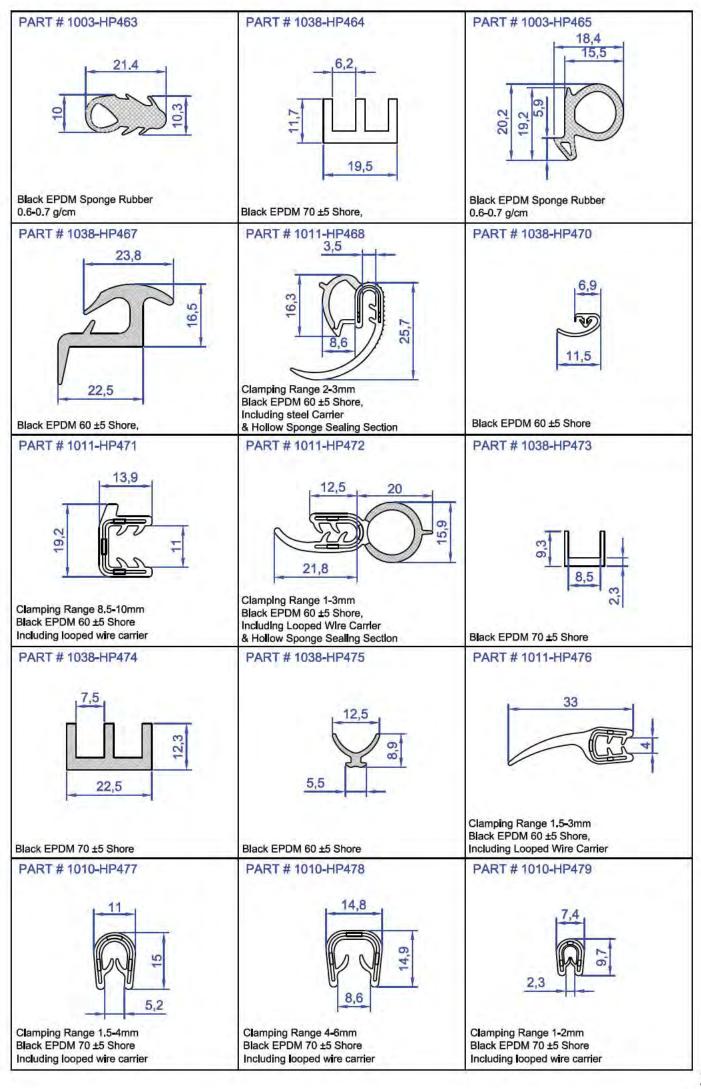


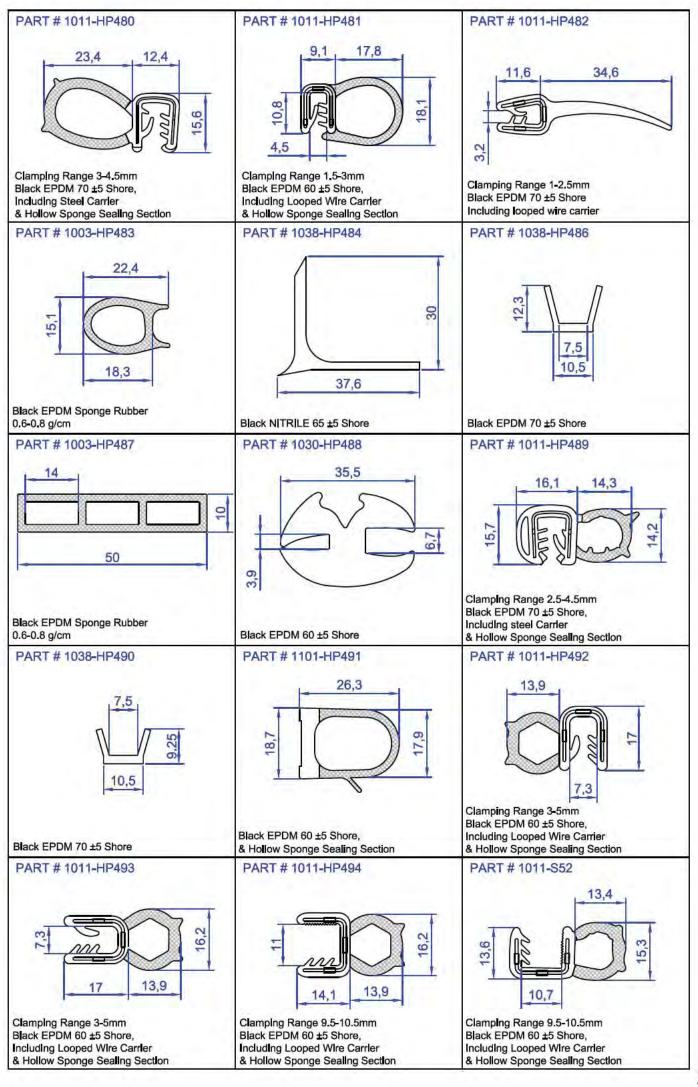


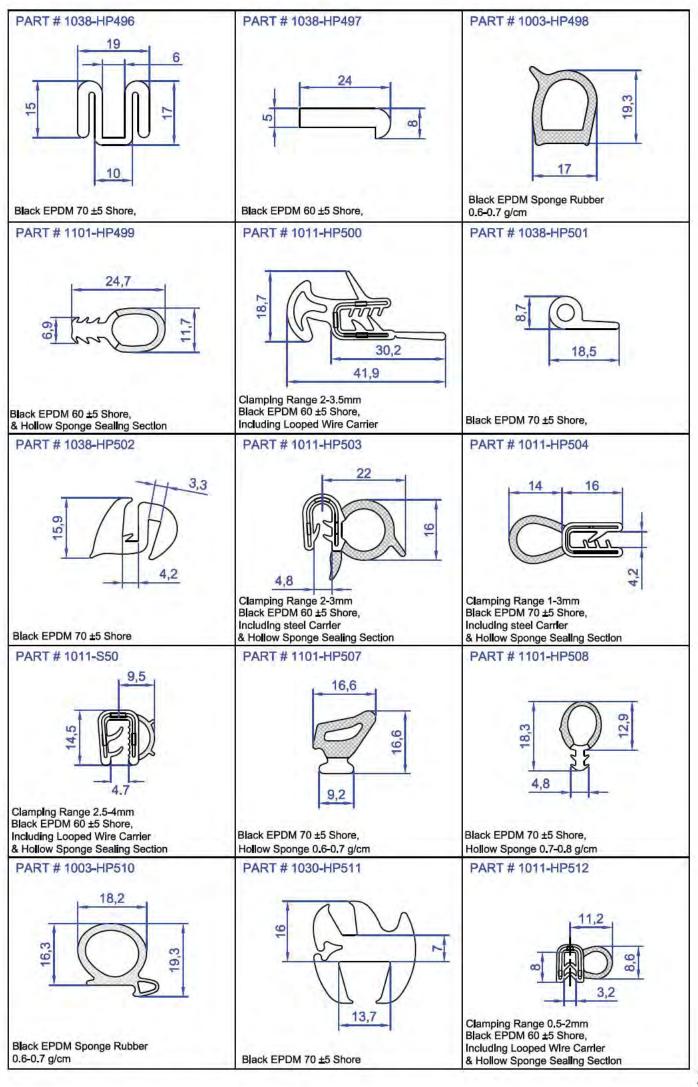


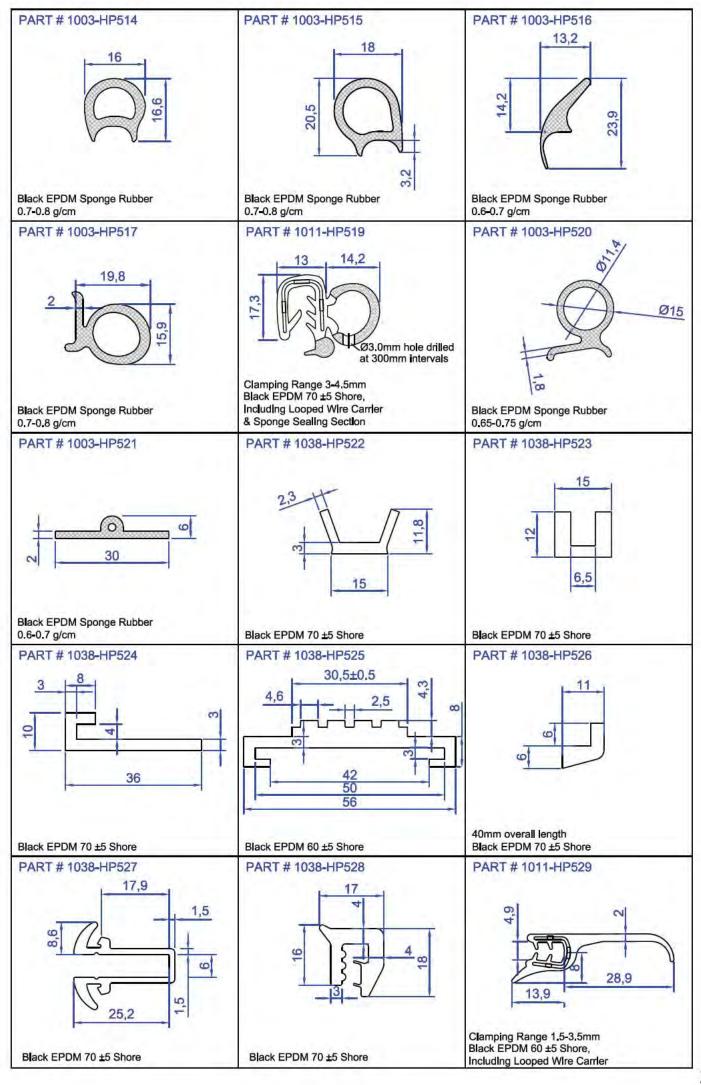


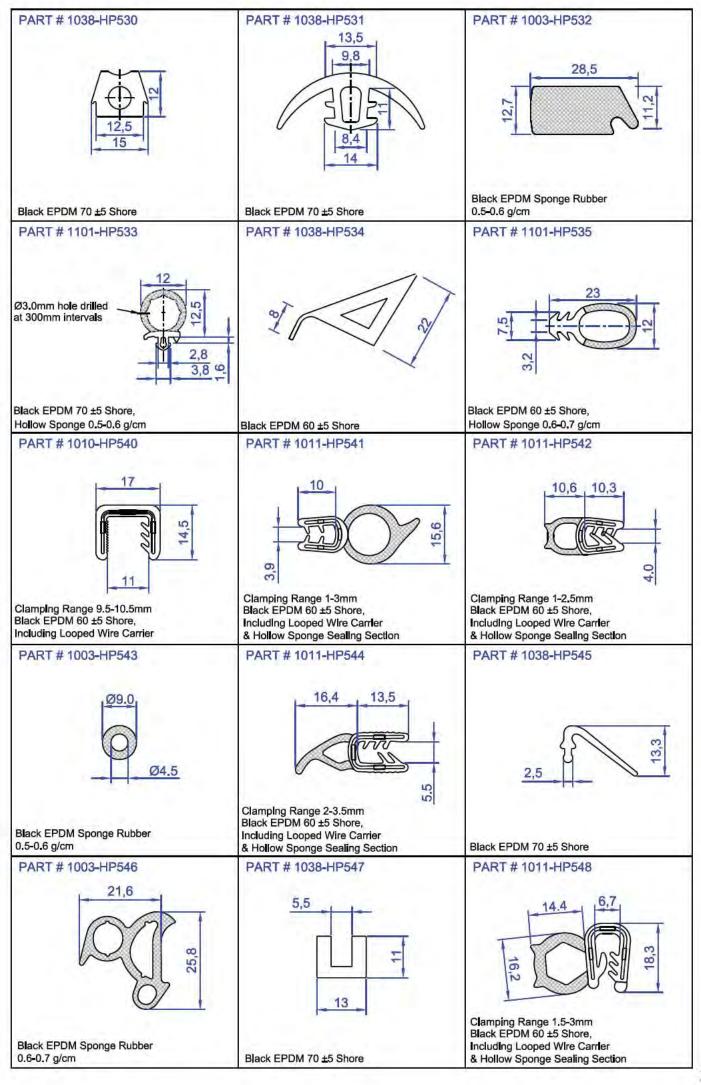


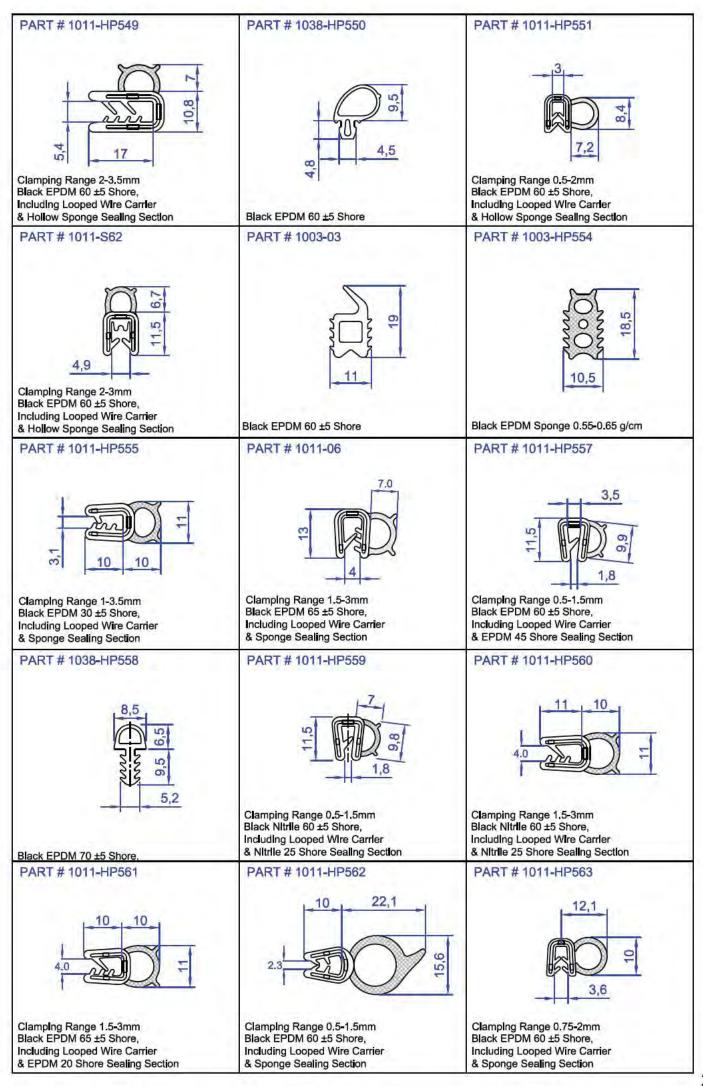


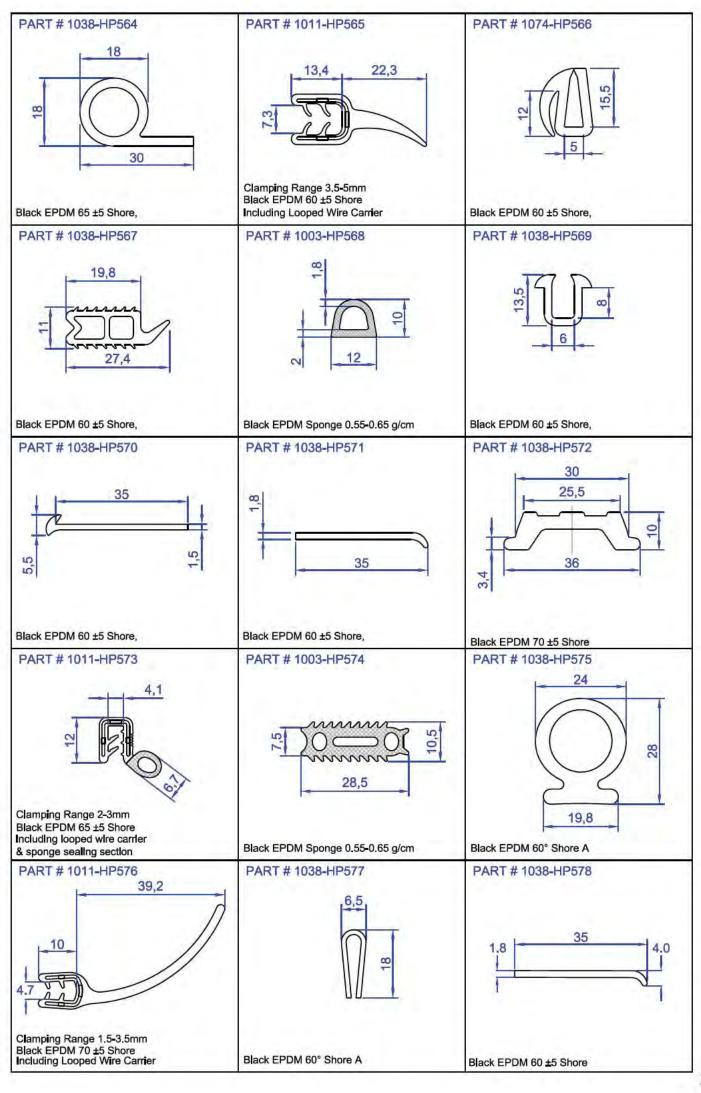


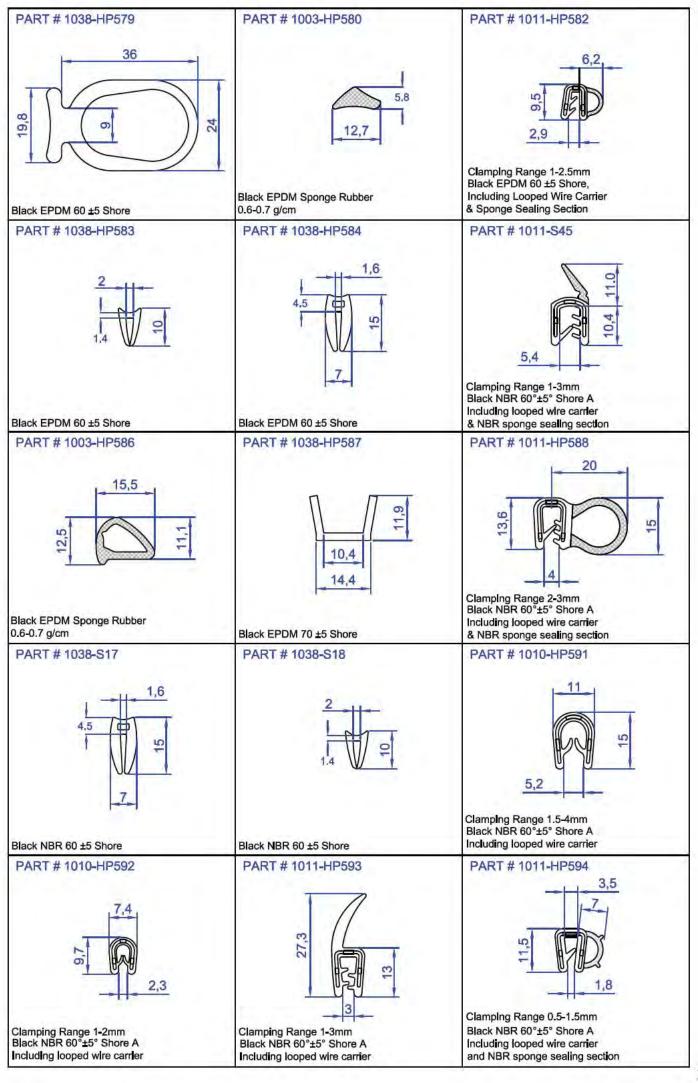


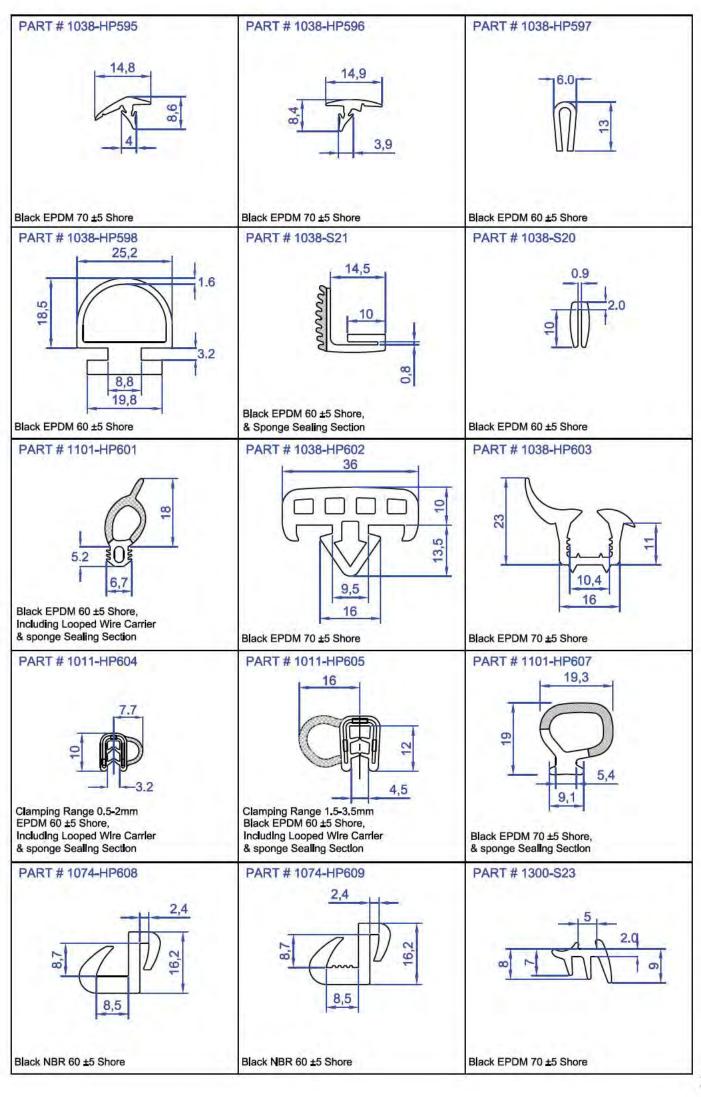


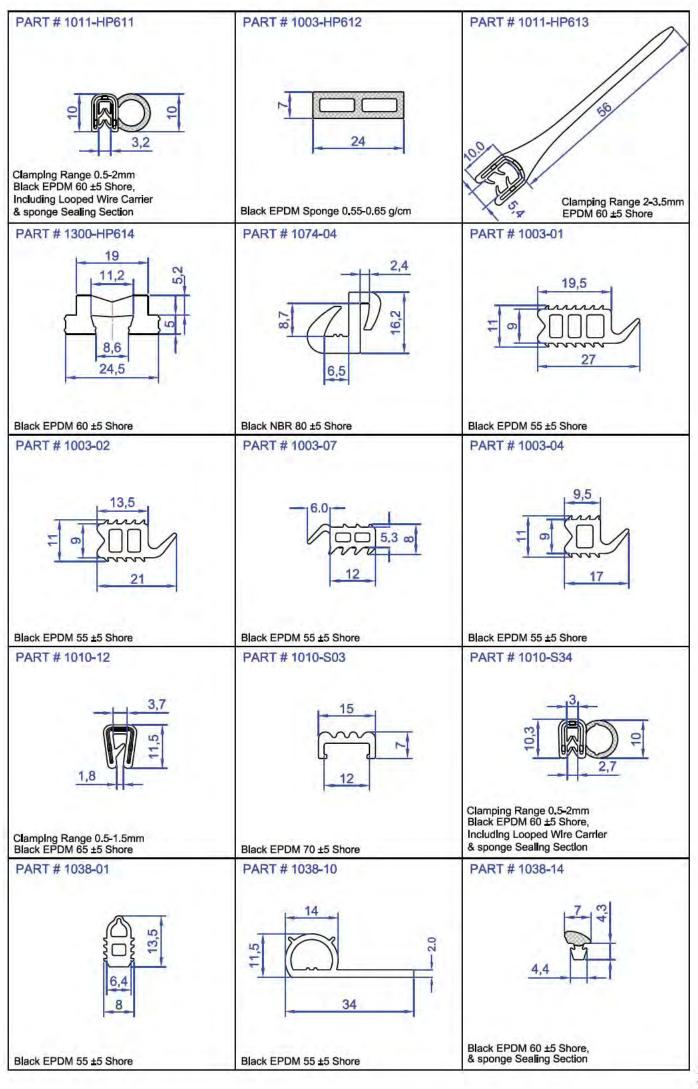


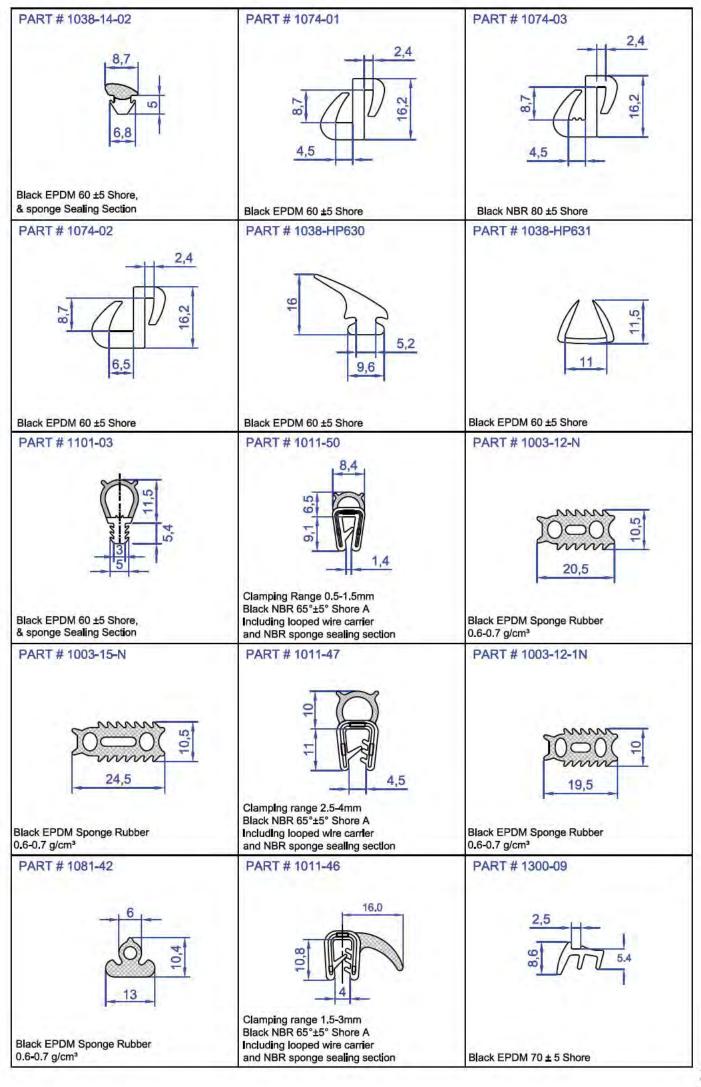


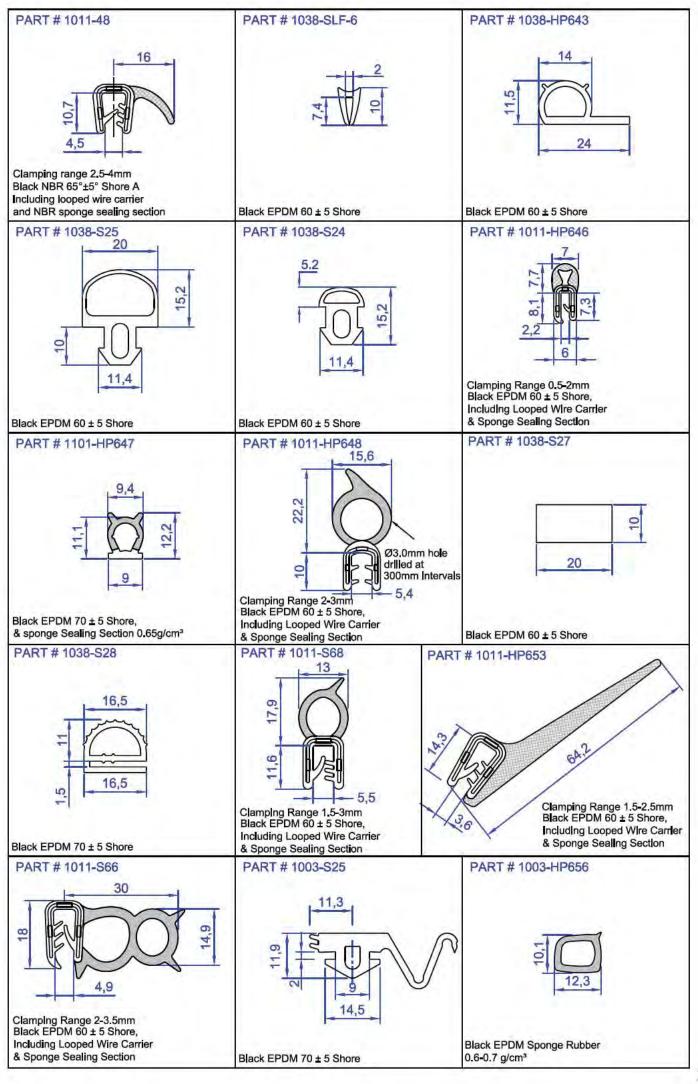


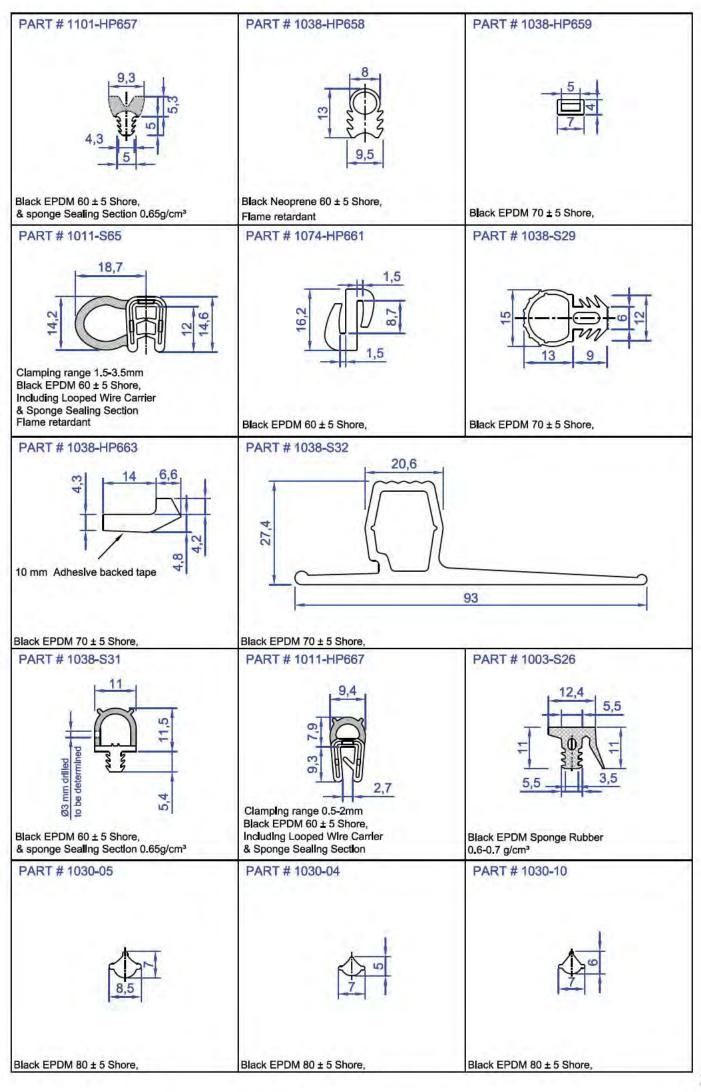


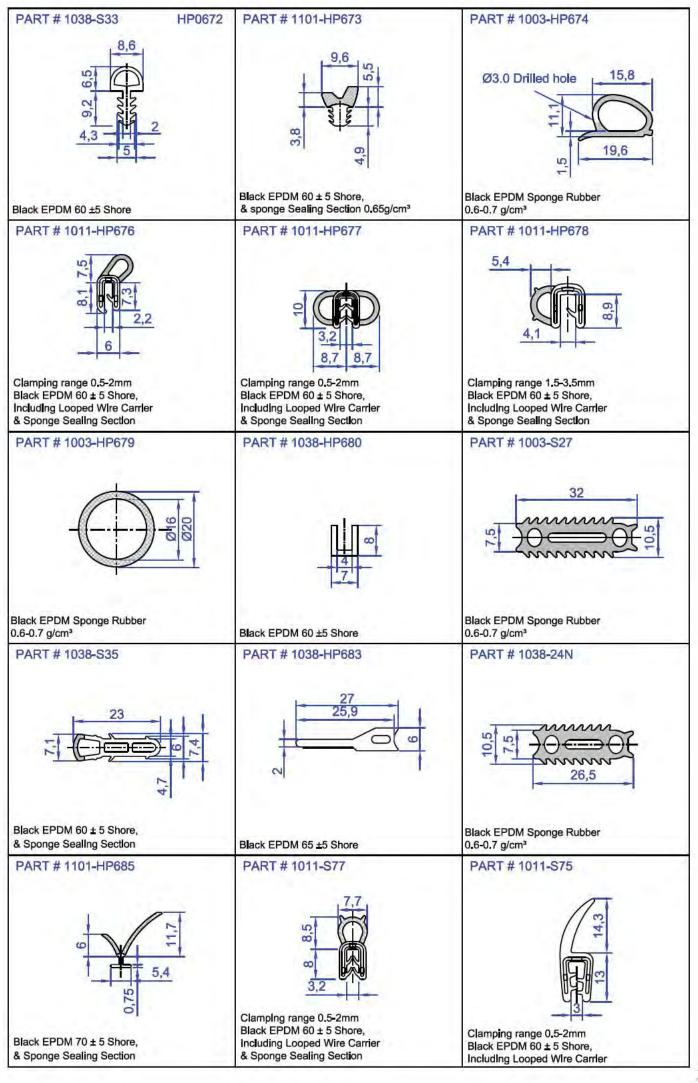


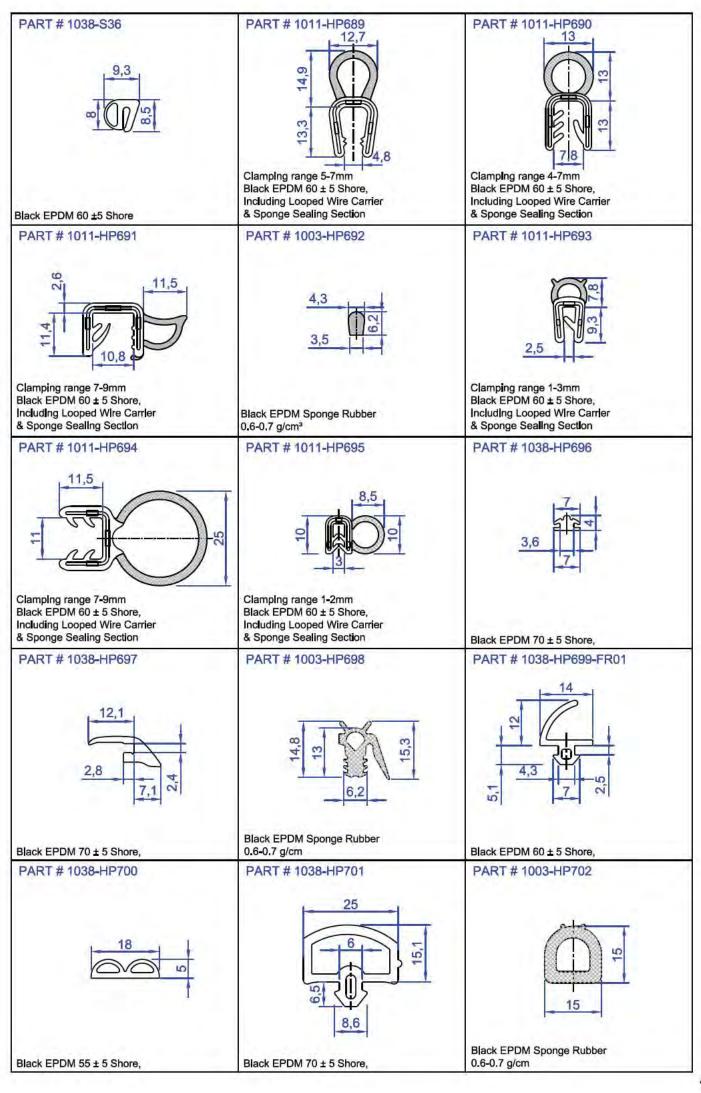


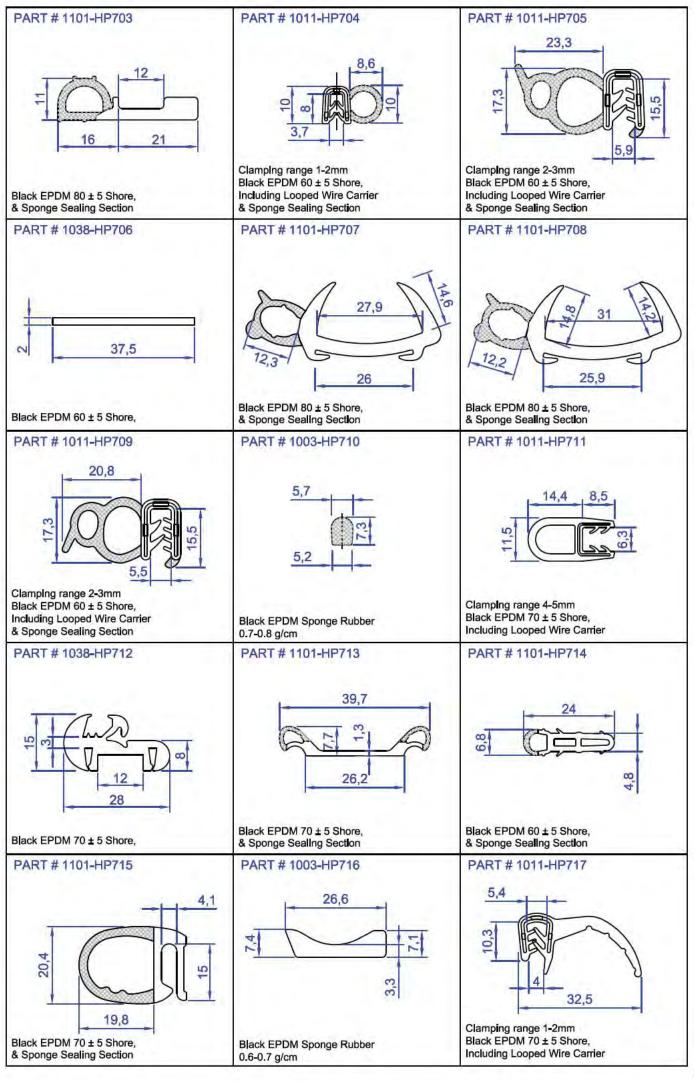


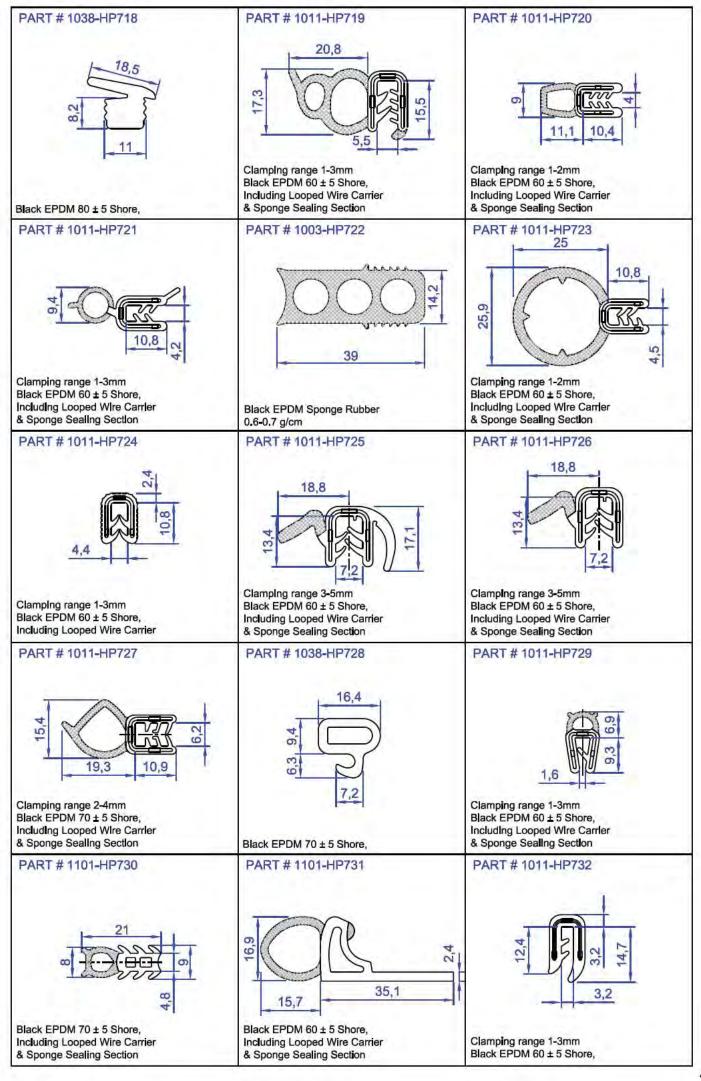




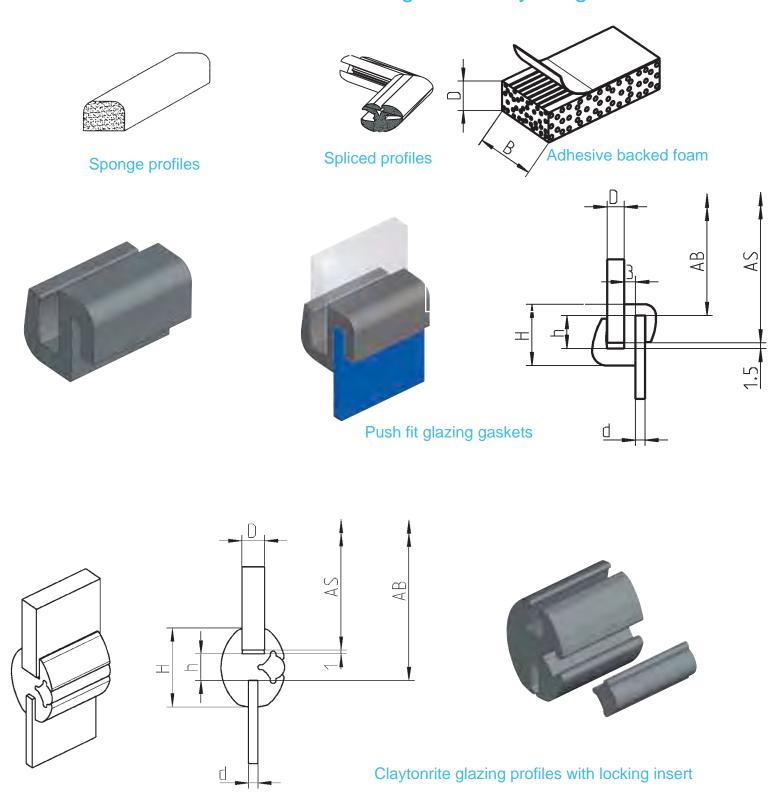








# EMKA Profiles Ltd Manufacturing & Delivery Programme

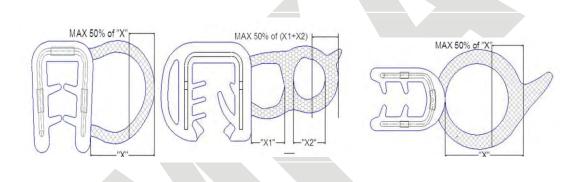


EMKA Profiles Ltd Manufacturing & Delivery Programme Manufacturing tolerances According to DIN ISO 3302 Tolerances of custom length based upon DIN ISO 3302 -1 Compression recommended for bubble sealing profiles

The compression of our sealing edge protection bubble profile should have a maximum of 50% as otherwise the compression and recovery can be adversely affected. It is recommended the profile should be compressed between 30-40%.

Should the profile have two cavities then this value should be applied to each cavity.

See diagram below:



### The compression set of sponge rubber profile.

An essential for the application of sealing is the enduring deformation.

The most common characteristic is the compression set (DVR) ASTM D395.To determine this value, a cylindrical test body is compressed by -25% and then stored for a predetermined time at a specific temperature. Thirty minutes after release, the height is measured at room temperature again, and from the result, the enduring deformation can be identified. A DVR of 0 would indicate that the test body has reached its original height (unlikely in reality), a DVR of 100% shows that the test body has no recovery and would remain completely deformed.

Why is the compression set an important factor when choosing a suitable seal?

A flange gasket is compressed to a specified thickness and exerts a pressure on the surface of the flange. After a while this pressure reduces because the rubber deforms and takes a set If the DVR – is too high, the elasticity performance and the sealing effect decrease and the seal may cease to function.

### **EMKA Profiles Steel and Wire Carriers**

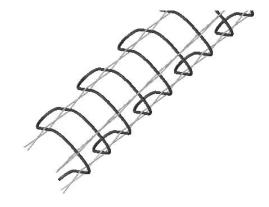
By using either steel or wire carrier, the edge protection sections will grip well, without the use of adhesives or tapes. However, the use of a steel carrier will have a higher clamping effect than a wire carrier and is advised where there is high vibration applications.

The disadvantage of a profile with an unbroken steel carrier is a restricted bending radius. This can be solved by breaking the connecting sprags. However, an uneven surface may develop if this is done. In most technical applications the aesthetics will be irrelevant.

The choice of either a steel or wire carrier largely depends on the application situation, and the desired appearance. (where aesthetics are important, the hungry horse effect can (Where aesthetics are important, the hungry horse effect can be disguised)



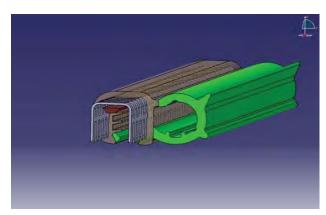
Formed Wire carrier





Single bar carrier





Double bar carrier



**EMKA Profiles Limited Global provider of sealing solutions** 

## TOLERANCES ISO 3302-1 1996 EXTRUSIONS

Nominal L	Dimension	Class E1	Class E2	Class E3
Above (mm)	Up to (mm)	+/- (mm)	+/- (mm)	+/- (mm)
0	1.5	0.15	0.25	0.40
1.5	2.5	0.20	0.35	0.50
2.5	4.0	0.25	0.40	0.70
4.0	6.3	0.35	0.50	0.80
6.3	10.0	0.40	0.70	1.00
10.0	16.0	0.50	0.80	1.30
16.0	25.0	0.70	1.00	1.60
25.0	40.0	0.80	1.30	2.00
40.0	63.0	1.00	1.60	2.50
63.0	100.0	1.30	2.00	3.20

## TOLERANCES ISO 3302-1 1996 CUT LENGTHS

Nomina	l length	Class L1	Class L2	Class L3
Above (mm)	Up to (mm)	+/- (mm)	+/- (mm)	+/- (mm)
0	40	0.7	1.0	1.6
40	<i>63</i>	0.8	1.3	2.0
<i>63</i>	100	1.0	1.6	2.5
100	160	1.3	2.0	3.2
160	250	1.6	2.5	4.0
250	400	2.0	3.2	5.0
400	630	2.5	4.0	6.3
630	1000	3.2	5.0	10.0
1000	1600	4.0	6.3	12.5
1600	2500	5.0	10.0	16.0
2500	4000	6.3	12.5	20.0
4000	-	0.16%	0.32%	0.50%

# EMKA Profiles Limited Global provider of sealing solutions

Comparativ	e chart of r	naterial feat	tures				
Headings	Natural rubber	SBR	Neoprene	Nitrile	EPDM	Silicone	Viton
Chemical name	Poly- isoprene	Styrene butadiene	Poly- chloroprene	Acrylo- nitrile- butadiene	Ethylene- propylene- dieneterpolymer	Poly- siloxane	Fluorinated hydrocarbon
SAE 1200 & ASTM D-2000 Designation	AA	AA, BA	BC, BE	BF, BG, BK	BA, CA	FC, FE, GE	НК
ASTM D-1418 Designation	NR	SBR	CR	NBR	EPDM	VMQ	FKM
Minimum	-55C	-55C	-40C	-40C (-40F)	-55C	-65C	-40C
temperature Maximum	(-67F) 50C	(-67F) 70C	(-40F)		(-67F) 120C	(-85F) 225C	(-40F) 225C
temperature	(122F)	(158F)	100C (212F)	100C (212F)	(275F)	(437F)	(437F)
Usual shelf life	3 to 5 years	3 to 5 years	5 to 10 years	5 to 10 years	5 to 10 years	Up to 20 years	Up to 20 years
Advantages	Outstanding elasticity     Good flexibility at low temperatures		1) Good resistance to flame 2) Very good resistance to weather, ozone, and natural ageing 3) Very good resistance to alkalis and acids	Very good resistance to oils and fuel 2) Superior resistance to petroleum-based hydraulic fluids 3) Wide range of operating temperatures 4) Very good resistance to alkalis and acids	solvents 4) Superior resistance to water and steam	temperatures 2) Low compression set 3) Excellent ultraviolet, weather and ozone resistance 4) Inert, odourless, tasteless and non- toxic	1) Excellent resistance to a wide variety of oils, fuel, solvents and acids at high temperatures 2) Very good impermeability to gases and steam 3) Very good weather, ozone and sunlight resistance
Restrictions	1) Poor heat, ozone and sunlight resistance 2) Very little resistance to oils, fuel and to hydrocarbon solvents	1) Poor heat, ozone and sunlight resistance 2) Very little resistance to oils, fuel and to hydrocarbon solvents	Poor to low resistance to aromatic solvents     Limited capacities at low temperatures	Low resistance to ozone, sunlight and natural ageing     Poor resistance to polar solvents	Poor resistance to oils, fuels and to hydrocarbon solvents		Will be severely attacked by some solvents such as esters, ethers and acetates
		Legend: E= I	Excellent, VG = Ve	ery good, G = Good,	F= Fair, P = Poor		
Tensile strength	E	F-G	VG	VG	F-G	VG	VG
Ultimate elongation	VG - E	G	G	G	G	VG - E	F-G
Compression set		G	F-G	G	G	VG - E	VG - E
Heat resistance	F	F-G	F-G	G	VG - E	E	E
Resistance to flame	Р	Р	G	Р	Р	F-G	VG - E
Resilience	E	F - G	VG	F - G	G	G	F
Abrasion resistance	E	VG - E	VG - E	VG - E	VG - E	P - F	F-G
Water resistance	E	VG - E	G	VG - E	E	VG - E	G
Acids	F-G	F-G	G	G	G	F	G
Alcohol	G	G	VG	F - G	F-G	G	F-G
Animal & vegetable oils	F	F	G	VG	G	G	E
Oils & Fuels	Р	Р	F-G	G - E	Р	P - F	E
Hydrocaarbon solvents	Р	Р	G	E	Р	P - F	Е
Oxygenic solvents	G	G	P - F	Р	VG	F	Р

Comparative vulcanisate properties of NR	es of l		and other	her SR'	S												
								R	Rubber								
Properties	ИR	IK	SBR	ЯВ	NBR	MOA	СВ	ECO	CSM	EKW	s'ЯII(X)	EPDM	MA3	РҮМД	MT	SBS	UA
Tensile strength	_	2	5	9	2	9	က	4	2	2	4	2	2	9	9	က	1
Tensile strength with reinforcing fillers	1	2	2	4	2	က	2	က	က	က	က	က	က	4	4	_	1
Maximum elongation	1	1	2	က	2	4	2	က	က	က	2	က	က	4	4	_	2
Abrasion resistance with reinforcing fillers	4	4	3	_	2	4	က	က	က	4	4	က	2	5	2	2	1
Tear resistance	2	2	3	5	က	က	2	က	က	4	က	က	က	5	4	က	1
Rebound	2	2	3	_	က	4	က	က	4	2	9	က	က	က	2	4	3
Low temperature flexibility	2	2	3	2	3	2	3	3	2	2	2	2	4	_	4	2	4
Heat resistance	9	9	4	4	3	2	3	2	3	1	3	2	2	_	2	9	2
Oxidative resistance	4	4	3	2	က	2	2	-	2	_	2	_	_	_	_	2	1
UV Resistance	4	4	3	3	3	2	2	1	2	1	2	1	1	1	1	2	1
Weather and ozone resistance	4	4	4	3	3	2	2	1	2	1	2	1	1	1	1	2	1
Oil resistance	9	9	2	9	1	1	2	1	2	1	9	4	4	1	1	9	1
Motor fuel resistance	9	9	9	9	2	3	3	1	2	1	9	2	2	9	1	9	1
Acid resistance	3	3	3	3	4	2	2	2	2	_	2	_	3	2	9	2	9
Alkali resistance	3	3	3	3	4	2	2	2	2	4	2	1	3	2	9	2	9
Flame resistance	9	9	9	9	9	9	2	2	3	3	9	9	9	9	9	9	9
Electrical resistivity	1	1	2	2	2	2	4	4	4	4	2	2	3	1	4	2	4
Gas permeation	2	2	4	4	2	3	3	1	3	3	1	4	2	9	1	4	1
Compression set - 40C	3	3	3	3	3	2	2	2	9	9	2	4	9	3	2	4	5
+ 20C	2	2	3	3	2	3	3	2	2	4	4	3	2	2	4	3	3
+ 100C	9	9	2	5	3	2	4	2	9	3	2	2	1	_	4	9	2
Pagend: 1 = excellent 6 = insufficient	ient																

Legend: 1 = excellent, 6 = insufficient

# EMKA Profiles Limited Global provider of sealing solutions