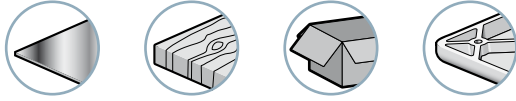




### Branch-specific applications



### Presentation

VP series flat suction pads are specially recommended for handling flat, rigid, smooth products.

- High tensile force
- High resistance to lateral forces allowing vertical handling.
- High degree of precision

### Types of use



### Materials

**NBR** Nitrile  
**SIT5** Translucent silicone

**NR** Natural rubber  
**STN** Siton®

	Ø (mm)	Volume (cm <sup>3</sup> )	Force (N) <sup>(1)</sup>	Force (N) <sup>(1)</sup>	NBR	SIT5	NR	STN
VP 8	7.5	0.04	1.5	0.75	■	■		■
VP 10	10	0.05	2.2	1.1	■	■		
VP 15	15	0.18	5.1	2.5	■	■		■
VP 20	20	0.44	8.5	4.2	■	■	■	■
VP 25	25	0.7	13	6.5	■	■		■
VP 26	26	1.5	15.5	7.7	■	■		■
VP 30	30	2.9	22	11	■	■		■
VP 35	35	2.7	32	16	■	■		
VP 40	40	4	37	18.5	■	■	■	■
VP 50	52	7	53	26.5	■	■		■
VP 60	60	7.3	80	40	■	■		
VP 75	75	16	140	70	■	■	■	

(1) Actual force of the suction pad in use with a 90% vacuum and including a safety factor of 2 for horizontal handling and a factor of 4 for vertical handling.

■ Standard

### Choice of fittings

	Group		M3M	M5M	M6M	M8M	M10M	1/8F	1/8M	10/32M	1/4F	1/4M	3/8M	1/2M
8... 25	1	2/15		■	■			■	■	■				
26... 60	2	2/16		■	■	■	■	■	■		■	■		
75	3	2/17					■		■		■	■	■	■

■ Standard

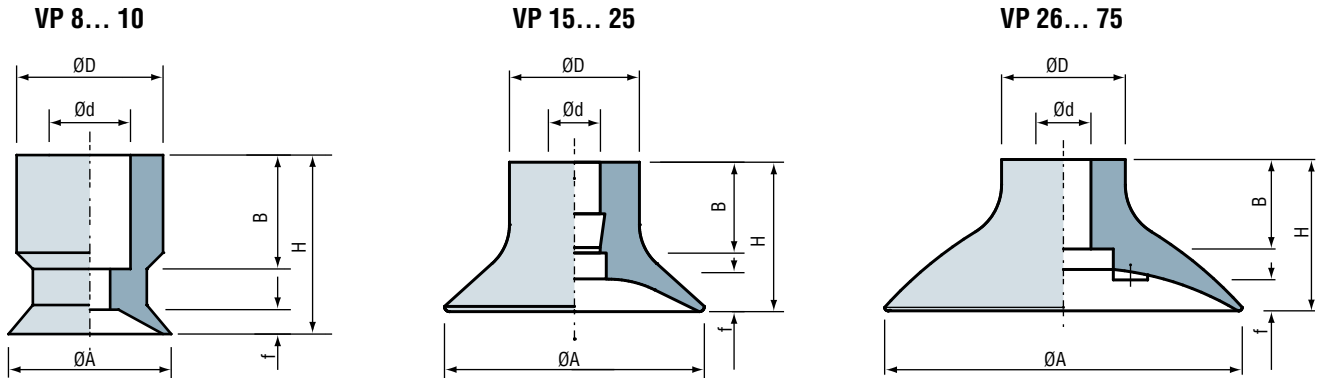
Fitting: M = male  
F = female



**For all orders, please specify: Model + Diameter + Material AND factory-cripped fitting (optional)**  
or: **Model + Diameter + Material + choice of removable fitting**

1: Model	2: Diameter	3: Material	4: Factory-cripped fitting			
VP	8 ... 75	NBR ... Please refer to the table	For Ø26... 60 mm suction pad		For Ø75... 75 mm suction pad	
			IM14	1/4G male	IM14	1/4G male
			IF14	1/4G female	IF14	1/4G female
					IM38	3/8G male

E.g. **VP 50 NBR IF14** (VP series suction pad, Diameter 50, Nitrile with factory-cripped 1/4G female fitting)

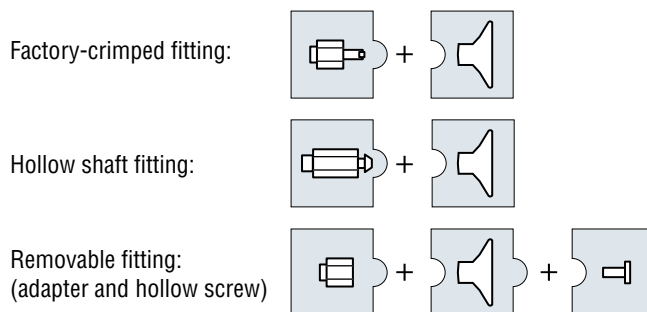
## Dimensions



	Ø A (mm)	H (mm)	Ø d (mm)	Ø D (mm)	f <sup>(1)</sup> (mm)	B (mm)	 (g)
<b>VP 8</b>	7.5	10	5	9	1.3	7	0.4
<b>VP 10</b>	10	10.5	4.4	9	1.5	7	0.5
<b>VP 15</b>	15	11	4	9	2.25	7	0.7
<b>VP 20</b>	20	11.5	4	10	3	7	1.2
<b>VP 25</b>	25	12	4	10	3	7	1.4
<b>VP 26</b>	26	19.5	8	16	3	13	3.7
<b>VP 30</b>	30	19	8	16	2.5	13	4
<b>VP 35</b>	35	20	8	16	3	13	5.6
<b>VP 40</b>	40	20	8	16	3	13	9
<b>VP 50</b>	52	22	8	18	4.5	13	14
<b>VP 60</b>	60	22	8	18	4.5	13	16
<b>VP 75</b>	75	32	12	23	4.5	20	33

The values represent the average characteristics of our products.  
 (1) f = Deflection of the suction pad.

## Types of assembly



## Assembly diagrams

COVAL suction pads can be assembled in a wide variety of configurations. see pages 2/15 to 2/17.

## Accessories

To optimize the use of your suction pads, Coval offers a comprehensive range of accessories (feelers, nozzle fittings, spring extensions, and feeder systems, etc.), see chapters 5 and 13.

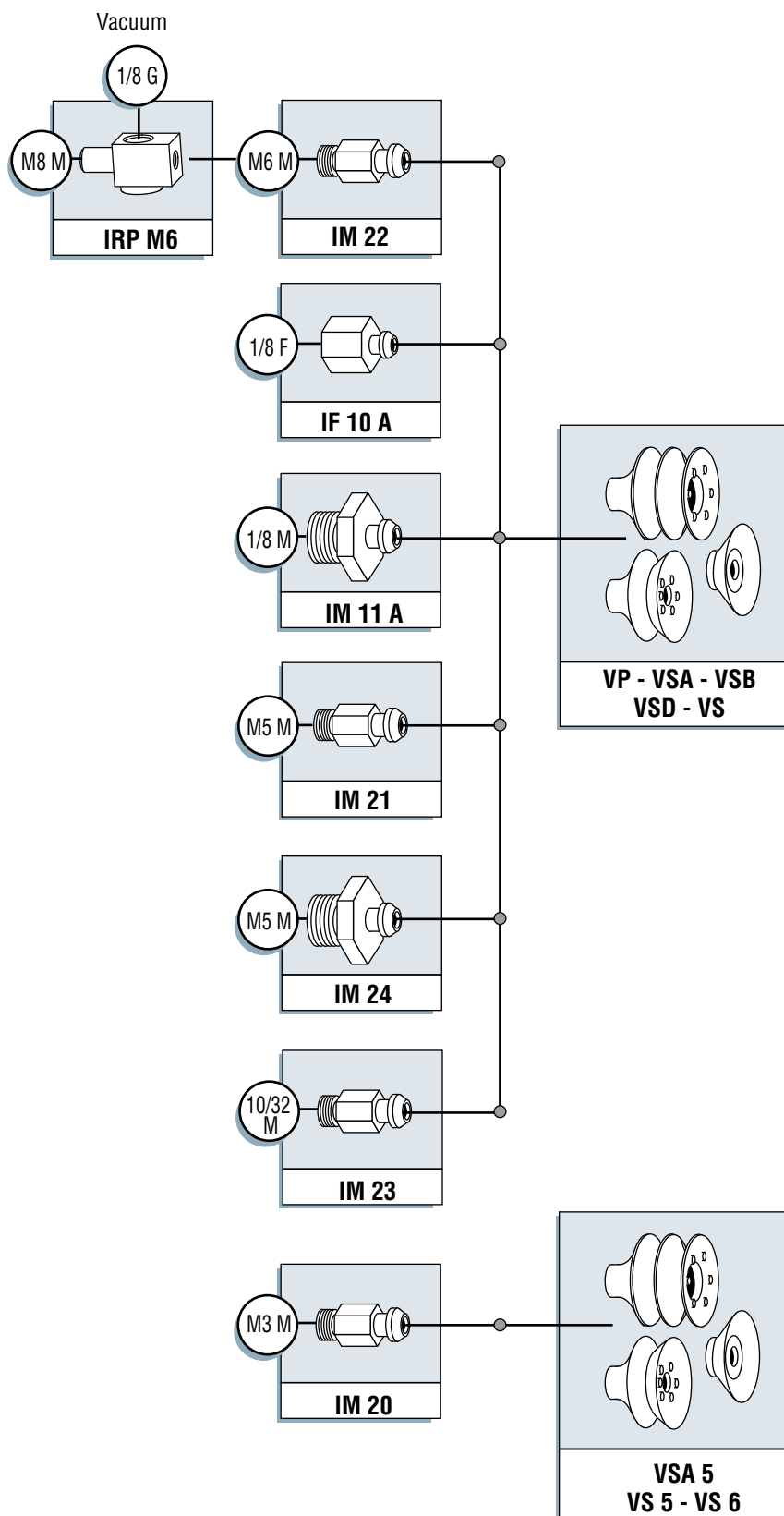
# assembly diagrams

## VP - VSA - VSB - VSD - VS Ø 5... 25 mm

2

### Group 1

#### Hollow shaft fittings



Note: Nozzle fittings for random gripping are available for these suction pads (see pages 5/7 and 5/8).

Fittings dimensions:  
see pages 2/22 and 2/23.

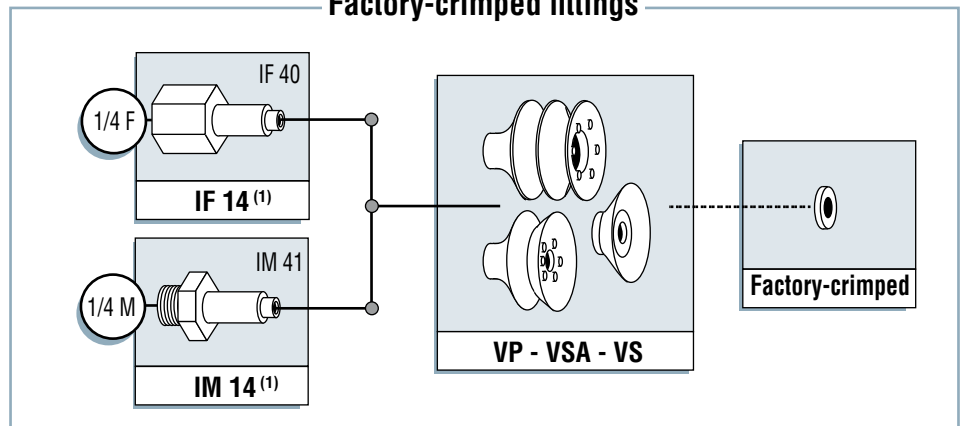
# assembly diagrams

## VP - VSA - VSB - VS Ø 26... 63mm

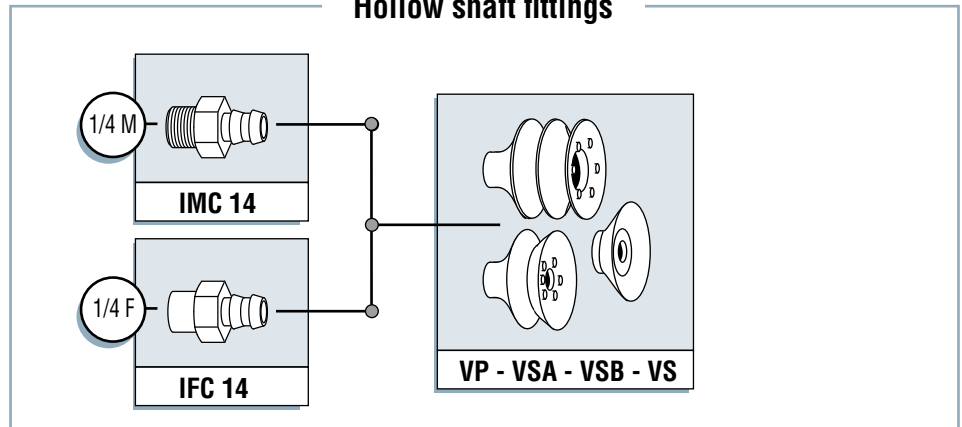
2

### Group 2

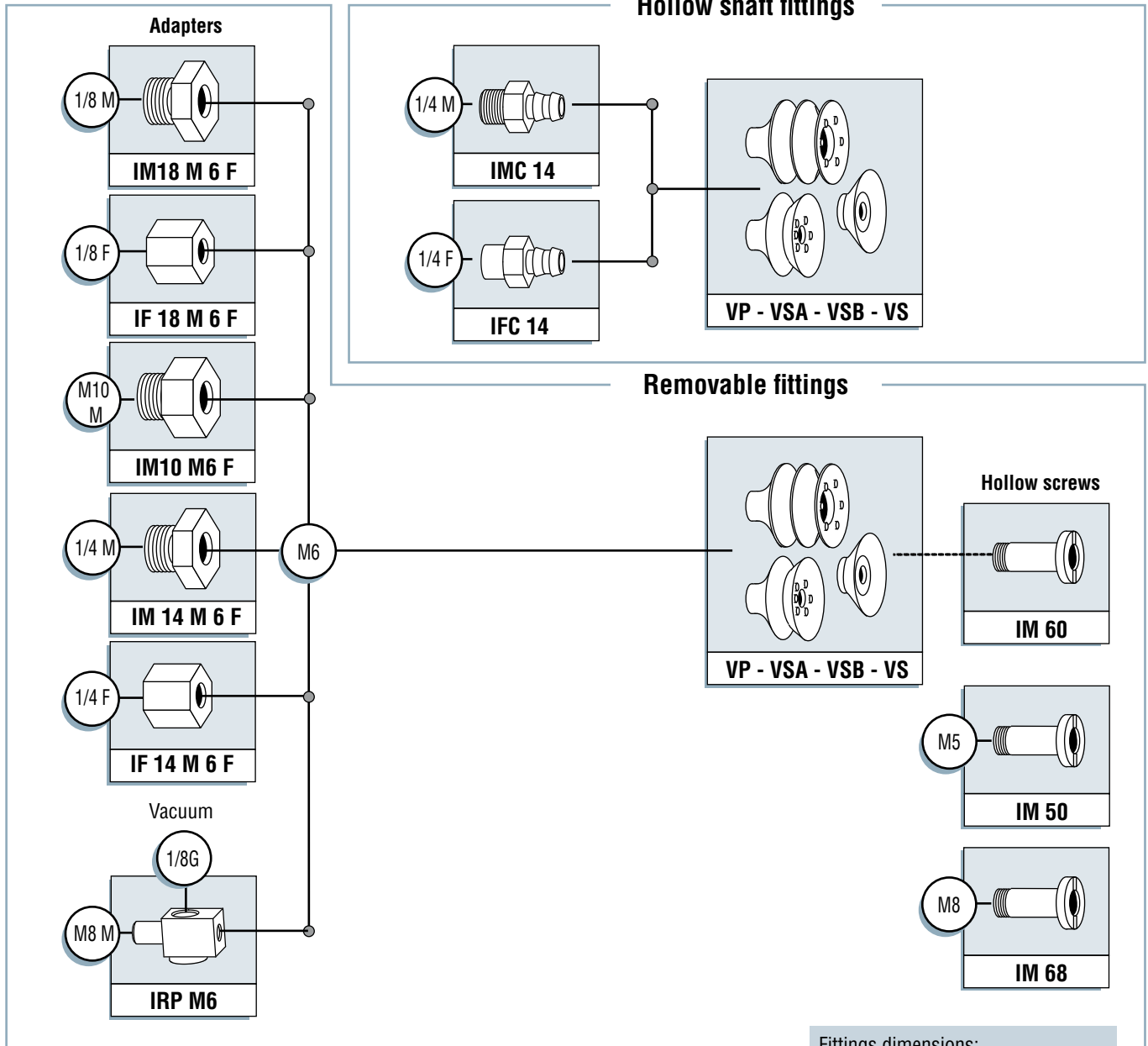
#### Factory-cripped fittings



#### Hollow shaft fittings



#### Removable fittings



Fittings dimensions:  
see pages 2/22 and 2/23.

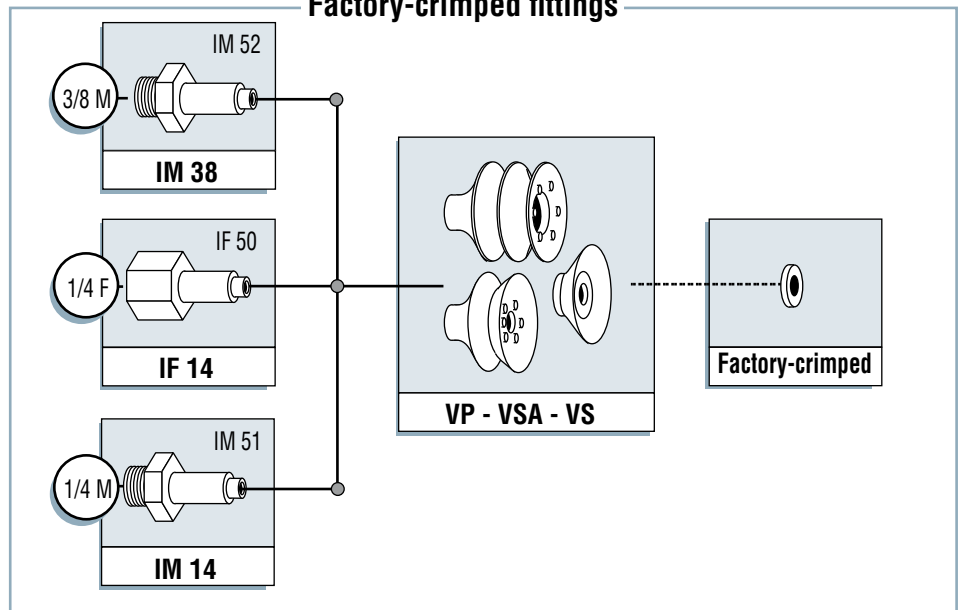
(1) Reference = fitting crimped onto the suction pad by COVAL.

# assembly diagrams

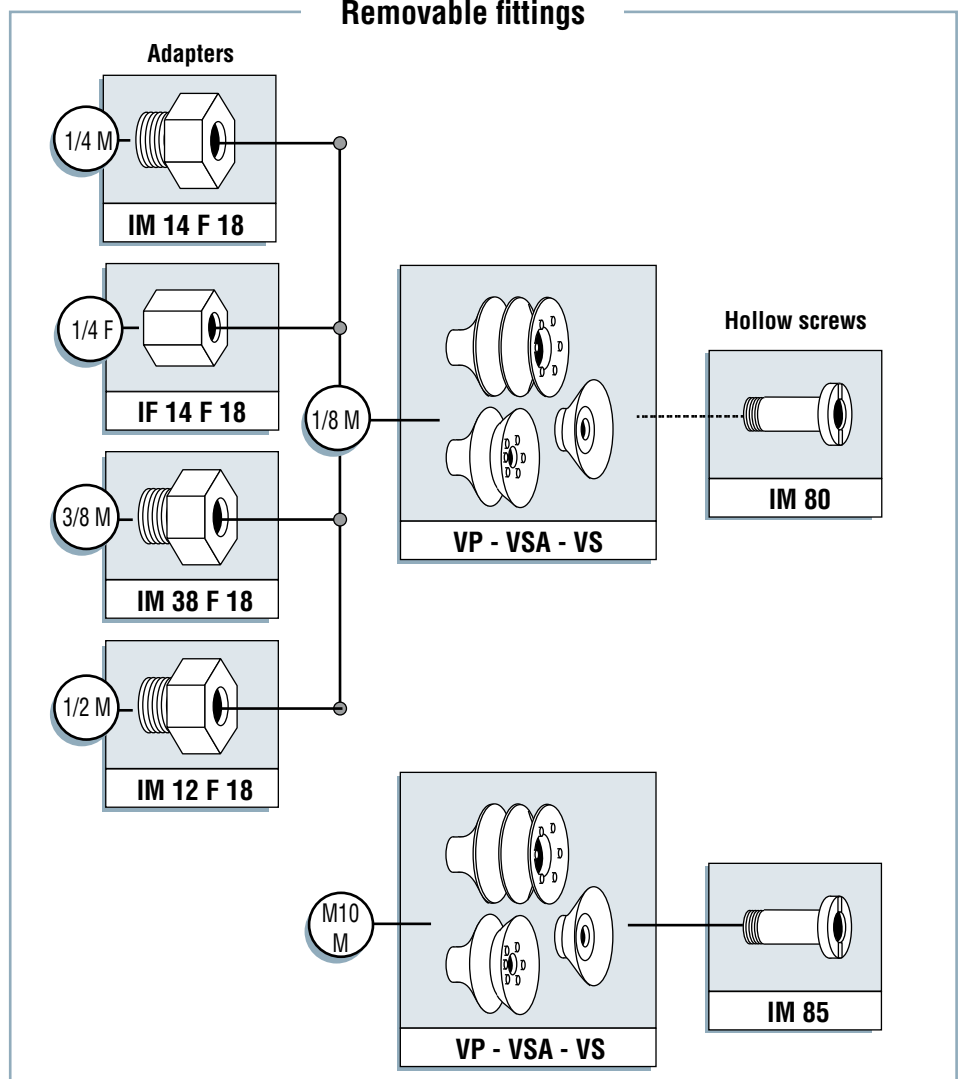
## VP - VSA - VS Ø 75... 88 mm

### Group 3

#### Factory-crimped fittings



#### Removable fittings



Fittings dimensions:  
see pages 2/22 and 2/23.

### Parameters to be taken into consideration when choosing a suction pad

<b>Shape of the load</b>	Flat • Rounded • Cylindrical • Egg-shaped • Spherical, etc.
<b>Type of material of the load</b>	Porous • Air-tight • Deformable • Rigid • Fragile, etc.
<b>Condition of the surface of the load</b>	Smooth • Granular • Ridged • Abrasive, etc
<b>Appearance of the load</b>	Damp • Oily • Dusty • Viscous • Dry, etc
<b>Weight of the load</b>	Heavy • Light, etc.
<b>Temperature of the load</b>	From -40 to 250°C / -40 to 482°F depending on the materials chosen.
<b>Direction of gripping</b>	Horizontal • Vertical • Over corners • Height differences, etc.
<b>Type of grip</b>	Handling • Lifting • Holding • Unfolding ... objects.
<b>Available surface</b>	Depends on the load
<b>Cycle time</b>	Accelerations

## COVAL materials

To meet the constraints of industrial applications, COVAL has a wide range of both standard and specific materials. COVAL can also study new materials based on specific requirements of your applications.

### Properties of the materials

Materials	Shore Hardness	A Flexibility	Abrasion resistance	UV & weather resistance	Oil resistance	Heat resistance (in °C)	Food compatibility	Color
<b>NBR:</b> Nitrile	60	+	+	-	++	0 to 80	-	Black
<b>SI:</b> Translucent Silicone	50	+++	-	+++	-	-40 to 220	FDA and EC standard	Translucent
<b>SIB:</b> White Silicone	35	++++	-	+++	-	-40 to 220	FDA and EC standard	White
<b>SIT5:</b> Translucent Silicone	50	+++	-	+++	-	-40 to 220	FDA and EC standard	Translucent
<b>NR:</b> Natural Rubber	50	+++	++	--	--	-20 to 70	+	Grey
<b>STN:</b> Siton®	60	+	++	-	++	0 to 160	-	Blue

### SITON®

The COVAL laboratory has developed a new material: SITON®. SITON® is a silicone-free material which therefore does not leave a mark and was specially developed for handling hot objects that are waiting to be painted.

- SITON® can withstand maximum temperature of 320°F.
- SITON® has good resistance to abrasion.

Example of an application: Unmolding paintable plastic parts.