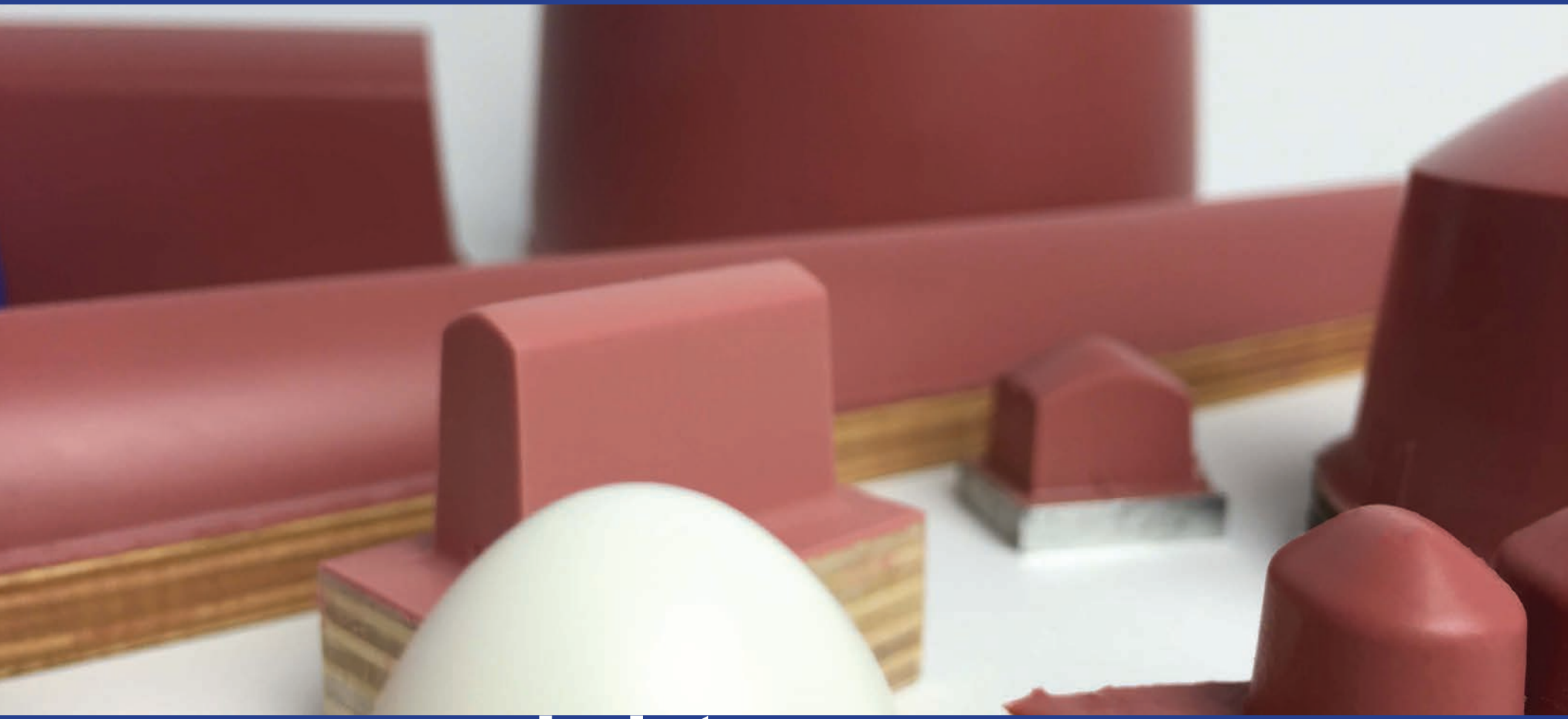
TRANSFER PAD CATALOG



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innovative marking systems

2020

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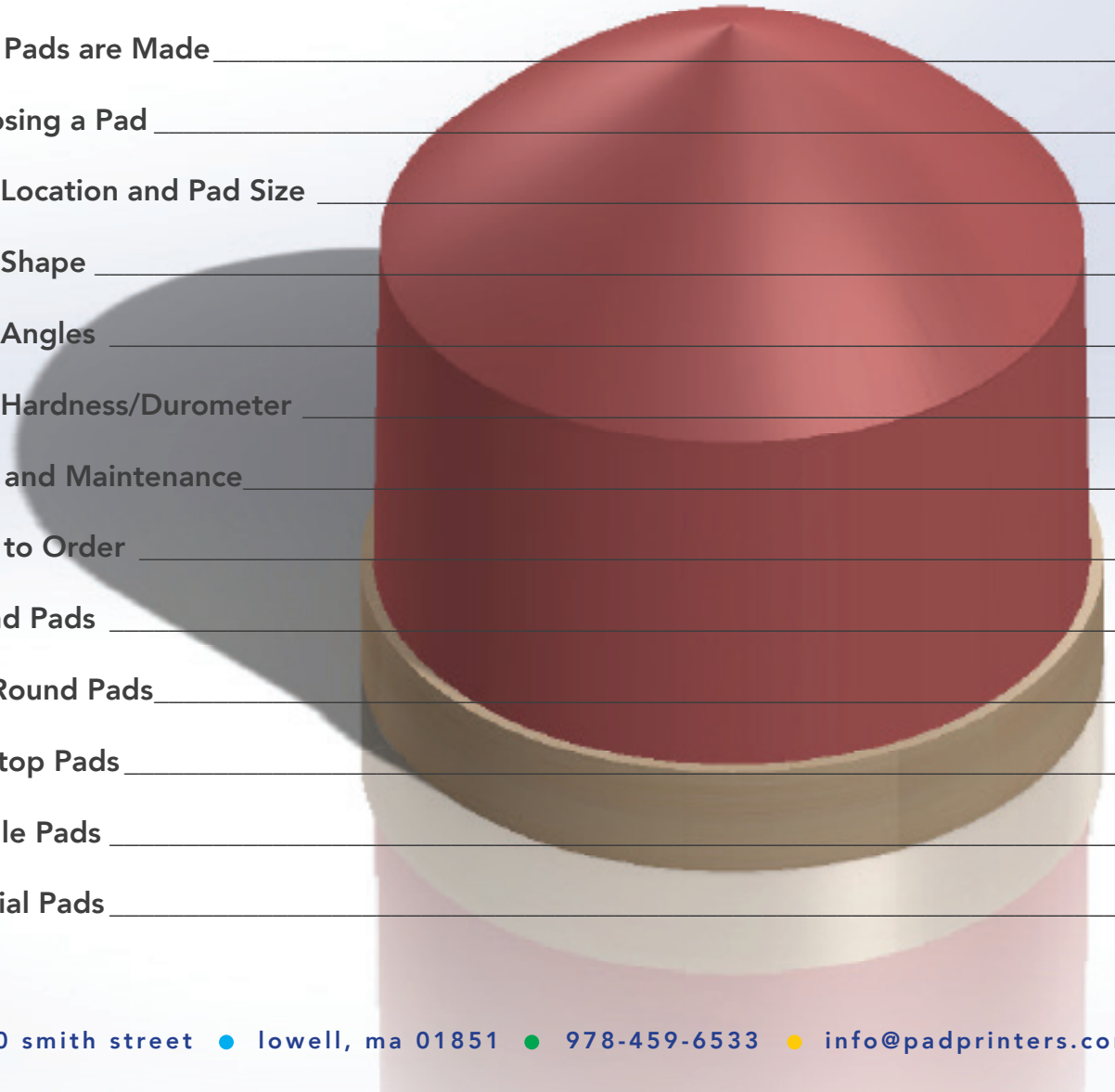

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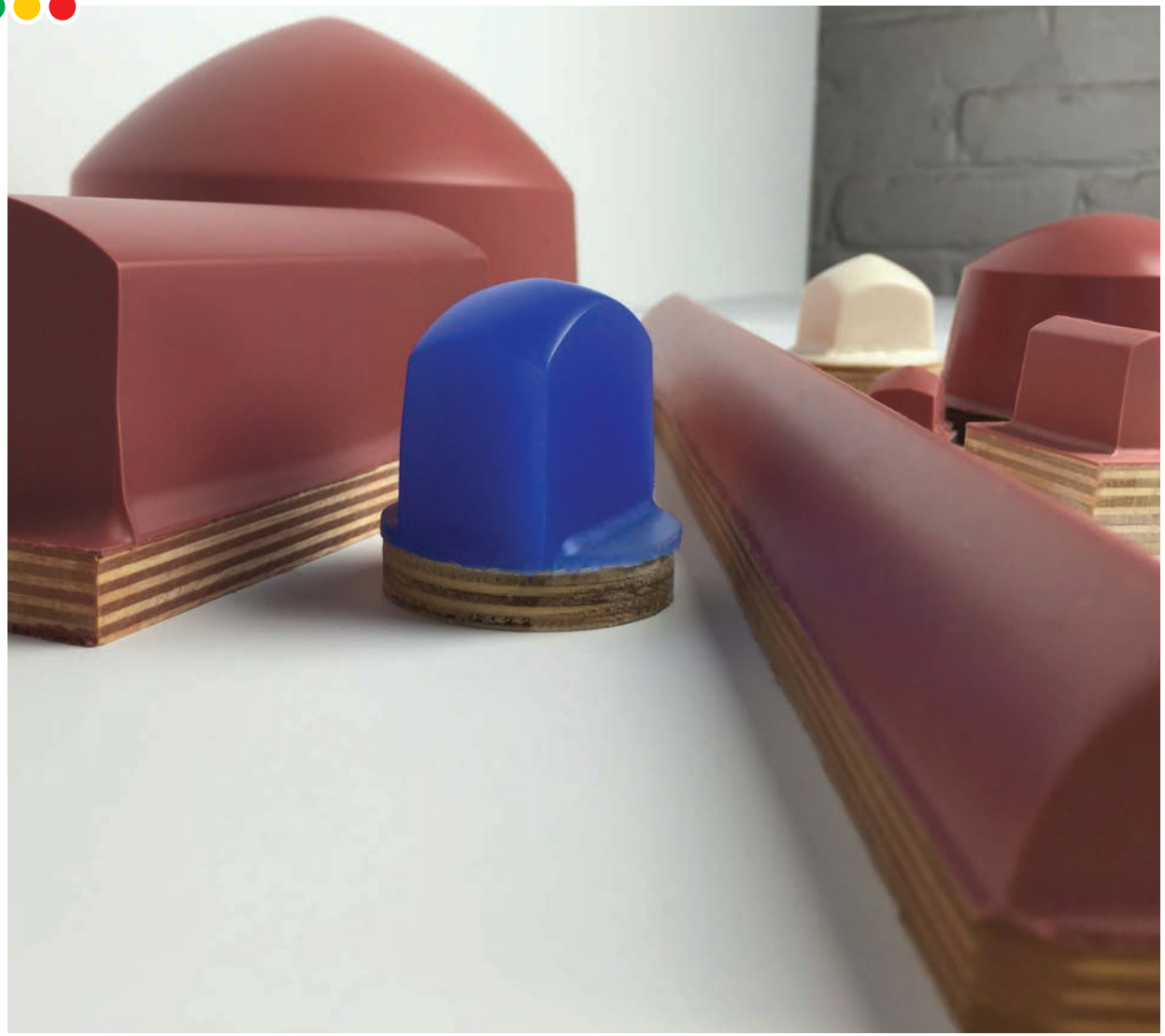
OUR PAD MAKING HISTORY

padprinters.com
innovative marking systems

Innovative Marking Systems has been a part of the pad printing community for over 20 years. Since the beginning of 2017, we have taken silicone pad making into our own hands. We are now able to control all aspects of silicone pad making and distribution. We are also delighted to add new partners to our team and are ready to tackle any and all of your transfer pad needs.

Throughout this catalog you will see the most commonly used transfer printing pads. Innovative offers all the pads within this catalog, but depending on your special needs, we can offer many more sizes, shapes, and custom designs.



UNDERSTANDING PAD TECHNOLOGY

Pads are a formulation of a liquid base material, silicone oil, and a catalyst. The base material makes up the mass of the pad. The amount of oil added to the base determines the hardness (shore), and the catalyst allows the pad to set-up in its mold. The color of the pad can be from either the base material, or the catalyst. Most pads are reddish-brown in color, but there are also blue, white, yellow, green, grey, red and clear pads. Bases can be made from wood, aluminum, steel, or plastic.

Pad manufacturers can have anywhere from a few dozen to a hundred or more "standard" pads molds. The mold determines the size, shape, and texture and the formulation determines quality, color, and hardness of the finished pad. Pads vary in quality depending on the base material. Cost is usually directly proportional to the quality of material and the volume of the mold.

What makes a "good pad"?

At first glance the two pads in Example 1 may appear to be of similar in quality. Look again. The vacuum-formed pad on the left was manufactured utilizing a precision master. The pad on the right was manufactured using a vacuum-formed mold of a pad. The telltale signs that a vacuum-formed mold was made from a pad instead of a precision master are the lack of sharply defined edges and the large taper at the base. Additionally, molds that are vacuum-formed using a pad as a master rarely will produce pads with consistent height.

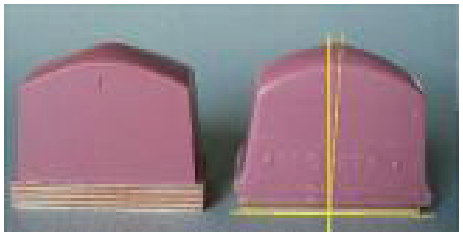
In example 2, the pad on the right is taller. While this might not present a problem if running this pad alone, it would most likely cause problems if it was used in tandem with the pad on the left because the optimal print strokes would be different. This would be especially troublesome if the pads were individually mounted in an assembly where parallelism is important.

As example 3 illustrates, it is difficult to correctly mount a pad made in a mold that was vacuum-formed using a pad. The pad on the right was mounted crooked. It is approximately four degrees off vertical on the long axis.

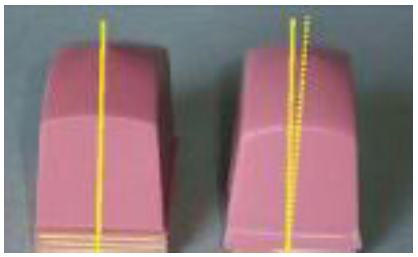
In example 4, it is mounted crooked in the short axis by approximately four degrees, and in example 5, the wood base was mounted off-center relative to the base of the pad.

EXAMPLE 1

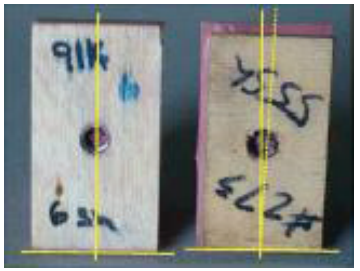
EXAMPLE 2



EXAMPLE 3



EXAMPLE 4



EXAMPLE 5

How pads are made.

Pads are made of a mixture of three component parts: silicone-base material, catalyst, and silicone oil. The silicone-base material comes in numerous different blends and levels of quality. The higher the material grade, the better longevity and service-life you can expect from the pad. Most silicone-base materials have an appearance similar to wood (Elmer's) glue. Catalyst is what gives the pad its color. Catalysts differ with respect to the length of time it takes them to cure. Silicone oil is what gives the pad its degree of hardness (expressed as "shore"). The more oil, the more pliable the resulting pad and the more easily/faster the pad releases the ink onto the substrate.

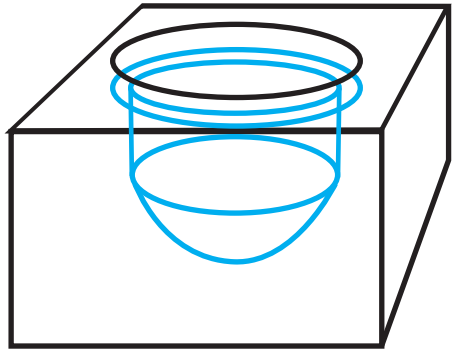


FIGURE 1

A properly manufactured pad mold (FIGURE 1) is CNC-machined from aluminum, poured, or vacuum-formed using a CNC-machined "precision master" pad. The surface characteristics of the mold will dictate the surface characteristics of the finished pad.

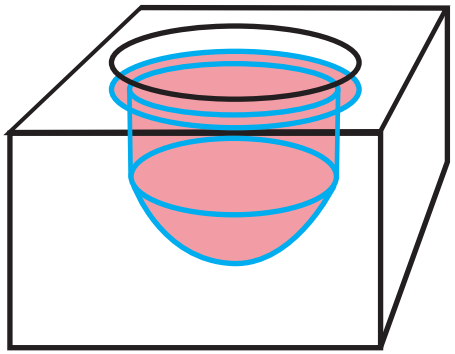


FIGURE 2

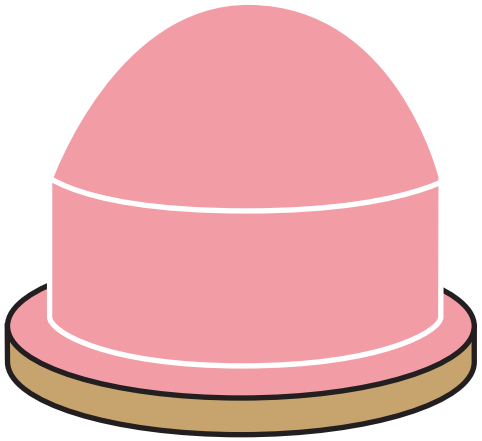
For example, a highly polished mold will produce a shiny, smooth pad. Typically, a "lip" is machined into the top edge of the mold to accept the pad base after the mold has been poured.

HOW PADS ARE MADE

Once these three components are mixed together per the required formula, they are placed in a vacuum so that all of the air can be evacuated from the mixture. Once the air is removed, the material is poured into the mold. Pad bases are typically made of either wood or aluminum. In order to get the pad to adhere to the base, the base must first be chemically primed.

Normally, bases have a hole drilled into the middle of them to allow excess silicone to escape from the mold once the base is installed and clamped.

The completed pad is removed after the curing schedule is realized. Excess silicone is trimmed from the base, and in some cases a threaded insert is placed into the hole to make mounting of the pads easier.



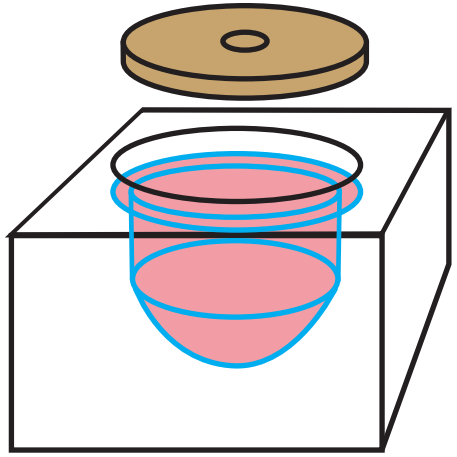


FIGURE 3

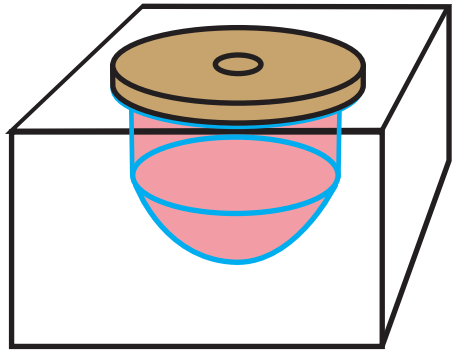


FIGURE 4

Choosing a Pad.

In order to choose the right pad, it is necessary to have a deep knowledge of the pad printing process. The choice has to be made taking the following factors in consideration:

- The dimensions and the type of graphics to be printed
- The shape of the surface of the object to be printed
- The type of ink to be used
- The type of engraving in the plate

LOCATION

The location of the image on the pad is very important. In compression the point may trap air. For this reason, it is recommended that you avoid placing the point of the pad directly in the image unless you absolutely have to. Move the point far enough away from the image so that it won't create a problem when compressed. If you can't change the location of the pad due to some mechanical limitation, change the location of the image on the cliché.

PAD SIZE

The size of the image to be printed and the size of the machine determine how large of a pad you'll want to use. Pad size is determined by a number of factors, including image area and machine dimensions.

Choose a pad that has a contact area at least 20-25% larger than the image area. You don't want to use a pad that picks up the image on the edges or you will create distortion. On the other hand, a pad that is too large will be costlier and may pick up ink that has collected on the edges of the plate.

Sizing a transfer pad to a specific application requires a sufficient mass of silicone to be present to avoid image distortion. As the pad compresses onto the printing plate (cliché) and part, the print surface of the pad is absorbed into the pad body. The pad body acts as a support mechanism for the pad's print surface. If the print surface is not adequately supported, it will deform, resulting in image distortion. It may seem that the simple solution is to oversize all transfer pads, but before making this decision three important factors must be considered:

- The transfer pad must fit into the machine, clear of all machine parts
- When compressed, the pad must be able to pick up and transfer the entire image.
- The machine must be capable of compressing the right durometer of the silicone being used.

If these three criteria are not met, the pad is too large.

SHAPE

Most standard pad shapes are variations of four basic shapes: cone shaped, roof-top shaped, rectangular, and square. These four basic shapes can be found under a "cone" or "V" shape.

The "cone" shaped pad face is the most common and versatile pad for printing on a variety of shapes. Rolling at the same angle 360 degrees from their tip, cone shaped pads offer excellent consistency when printing flat and textured surfaces.

Round, square, rectangle and oval pads usually utilize this feature. Cone shaped pads are usually used for circular, solid images or when printing on curved surfaces.

Rectangular shaped pads usually have a higher angle of compression along their short axis. These pads work well for printing oblong images that cannot be printed with cone shaped pads, and for printing on a radius.

Hollow rectangular pads are useful for applications where you need to be able to compress a long way to pick up a wide image with a machine that can't compress a solid pad having the same surface area. Hollow rectangular pads are also commonly used to print on a radius. Rectangular pads don't always have two tapers. Sometimes their angle is a single radius. These pads are useful for printing on a radius, but are difficult to use on flat surfaces since they tend to trap air easily.

The "V" shaped pad face is the other basic shape. The "V" pad resembles the rooftop on a house, or an upside down "V", with peak running the length of the pad, the peak can come to a very sharp point or have a gradual radius, the pad body radiates outward and downward from the peak. Generally, "V" shaped pads are used when printing line copy on a relatively flat part.

Roof-top shaped pads are especially useful for printing images on flat surfaces in cases where the image has straight lines, or blocks of text. Roof-top pads compress in opposite directions from their center ridge. Placing the ridge between the lines or block of text allows the image to be transferred without trapping air. Roof-top pads are also very useful for rolling images from a flat surface up or down onto an angled surface. Roof-top pads aren't limited to being straight down the center. The ridge can be off center, allowing the pad to compress at different angles on each side when necessary.

ANGLES

The pad in FIGURE 1 has a typical shape on a round base. The pointed tip is necessary in order to correctly take up the ink from the engraving in the plate and to avoid air bubbles which would compromise print quality.

Pads with sharper edges are generally used for flat surfaces. While pads with round profiles are used for convex surfaces:

The ideal contact angle between the object surface and the pad surface lies between 20 and 50 degrees. A pad with a suitable height compresses itself easier than a lower one limiting deformations in a better way. It is, therefore, recommended that the pad dimensions are 20% larger than the graphics to be printed.

The shape of the pad controls the "rolling effect" needed for a proper pickup and transfer of ink. The transfer pad is able to pull the image out of the etched area of the cliché due to the ink tack characteristics and the composition of the silicone. During pickup and transfer, this rolling effect pushes away from the image.

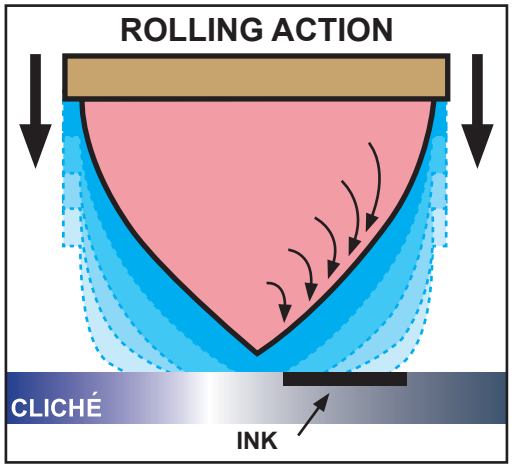


FIGURE 1

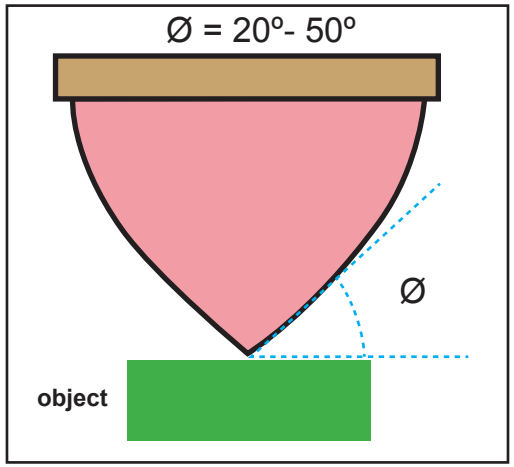


FIGURE 2

Medium angles of descent are better for:

- Bold images
- Flat surfaces
- Smooth surfaces
- Convex print surfaces

Large angles of descent are better for:

- Small images
- Highly detailed images
- Textured surfaces
- Concave print surfaces

When there is very little or no angle of descent, a blotting effect takes place which results in very poor print quality.

HARDNESS/DUROMETER

Pad shore or "hardness" is the last of the three main considerations in choosing a pad. Hardness is also referred to as "shore" or "durometer." These are types of scales used for quantifying hardness. A pad's hardness comes into play for 3 main reasons:

1. Two pads of the exact same shape, but different hardness, will require different amounts of energy.
2. The composition of the pad is important in considering hardness. A hard pad would crush a fragile part like a light bulb.
3. Texture of the surface: hard pads do a better job of printing textures than soft pads.

Always start with the hardest pad available (highest shore rating). A hard pad will work best on a textured surface. However, the harder a pad is the more difficult it is to compress. A large hard pad may overload the motor on your machine before full compression. If this is the case, choose a softer pad. A hard pad may also damage a particularly delicate part such as a Christmas ornament.

You can do a quick test to determine if your compression is sufficient without ink, using only the pad(s) and any cliché. Follow these steps:

1. Put your pad(s) in the machine.
2. Put a thin layer of light oil on the image area of the cliché.
3. Place paper where your image will print (preferably over the actual part that will actually be printed).
4. Cycle the machine once, allowing it to pick up the oil and transfer it to the paper.
5. Measure the area(s) that the pad(s) picked up and printed to see if they are sufficient. If not, adjust compression settings as necessary and try again.

If you can't pick up and transfer a large enough area then you'll have to use a smaller or softer pad, reduce the size of your image, or use a bigger machine.

HARDNESS/DUROMETER REFERENCE CHART		
	A SCALE	DUROMETER
SOFT	0 SHORE	
MEDIUM	3 SHORE	50
STANDARD	6 SHORE	55
SEMI-HARD	9 SHORE	
HARD	12 SHORE	65
VERY HARD	18 SHORE	

Care and Maintenance.

The life of any given pad depends on its initial quality. The aggressiveness of the inks and solvents, the amount of compression it receives, the type of etch the cliché has, the material you're printing on, and how well it is taken care of. The average pad life cycle is about 40,000 impressions. Many pad cycles can range anywhere between 10,000 and 70,000 impressions. Proper maintenance and care will ensure the longest life cycle possible for your silicone pad.

New pads usually have silicone oil on the surface. The amount of oil will depend on the pad's shore. This excess silicone oil can inhibit the pad's ability to pick up the image from the cliché and may result in uneven image transfer. To remove the excess oil, wipe the pad with a clean rag dampened with a fast solvent, such as acetone. This should only be done with new pads.

Each impression draws some silicone oil from the pad material, due to solvent evaporation from ink on the pad. Once the pad's level of silicone oil has been depleted to a certain point, technically, where the surface energy of the pad gets too close to the surface energy of the substrate due to oil loss, the pad should be replaced. This is normally what makes pads stop working.

Keep pads clean. Don't store a pad with ink on the surface. Avoid cleaning pads with solvents, use denatured alcohol instead. Clear packaging tape is also great for cleaning pads. The tape will remove ink and debris without removing the silicone oils.

Pads should be stored on their base away from direct sunlight and excessive heat or cold. Pads should never be stacked on top of one another.

During production, it is best to rotate your pads once a shift allowing your production pads to rest for a shift. This allows the pad to regain its original shape and flash off any thinner that it has absorbed.

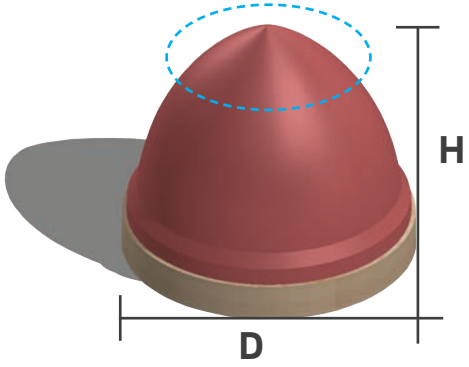
As a pad nears the end of its life, it will begin to show signs of wear and the overall image quality will deteriorate. It is best to have a few spare pads on hand.

HOW TO ORDER

ROUNDS

PAD #

Print Area: Diameter



D:
H:

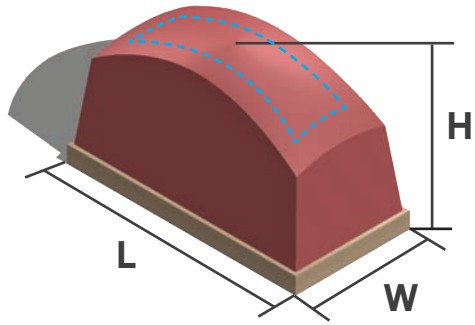
PRINT AREA

D:

CUT ROUNDS/ROOFTOP/SADDLE

PAD #

Print Area: LxW



L:
W:
H:

PRINT AREA

L:
W:

ROUND PADS

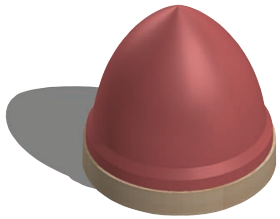
PAD 26

D: 65
H: 64

PRINT AREA

D: 33

PAD 28I



D: 63
H: 60

PRINT AREA

D: 29

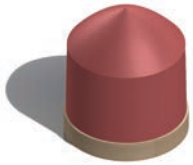
PAD 32

D: 36
H: 43

PRINT AREA

D: 22

PAD 35I

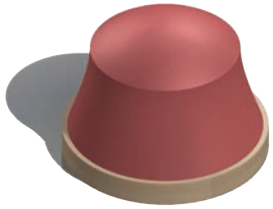


D: 32
H: 37

PRINT AREA

D: 20

PAD 39I

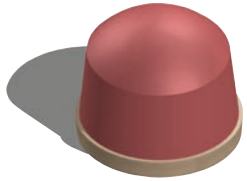


D: 76
H: 54

PRINT AREA

D: 40

PAD 41I

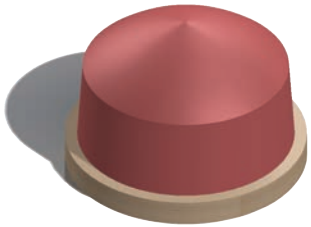


D: 78
H: 57

PRINT AREA

D: 45

PAD 045

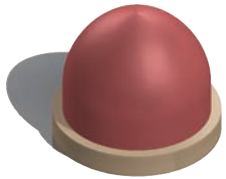


D: 106
H: 70

PRINT AREA

D: 80

PAD 52

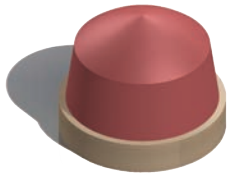


D: 64
H: 53

PRINT AREA

D: 32

PAD 56I



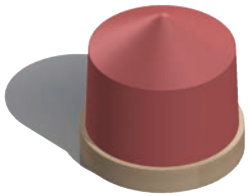
D: 45
H: 39

PRINT AREA

D: 28

ROUND PADS

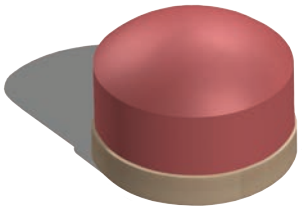
PAD 57



D: 55
H: 54

PRINT AREA
D: 33

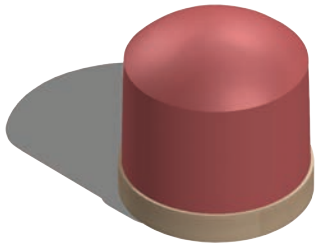
PAD 65M



D: 93
H: 70

PRINT AREA
D: 56

PAD 75M



D: 94
H: 79

PRINT AREA
D: 50

PAD 78

D: 83
H: 65

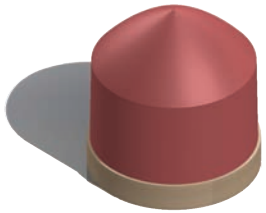
PRINT AREA
D: 33

PAD 111

D: 34
H: 35

PRINT AREA
D: 18

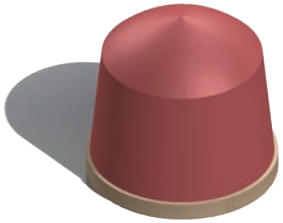
PAD 112 (955)



D: 59
H: 57

PRINT AREA
D: 30

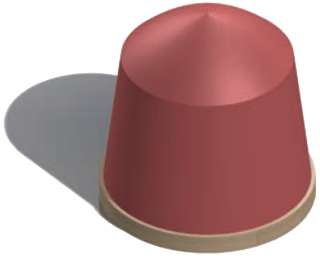
PAD 113 (394)



D: 94
H: 89

PRINT AREA
D: 56

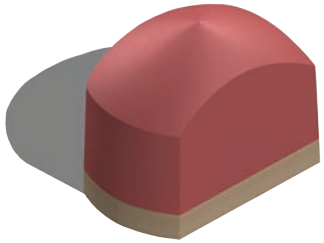
PAD 114



D: 105
H: 103

PRINT AREA
D: 47

PAD 114M

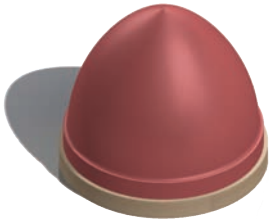


L: 91
W: 56
H: 86

PRINT AREA
L: 55
W: 35

ROUND PADS

PAD 128 (272)

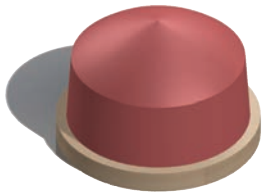


D: 100
H: 85

PRINT AREA

D: 38

PAD 130R

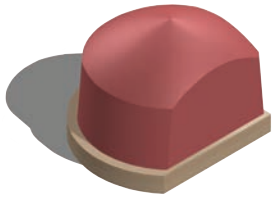


D: 88
H: 57

PRINT AREA

D: 41

PAD 130IM



L: 75
W:72
H: 56

PRINT AREA

L: 45
W: 38

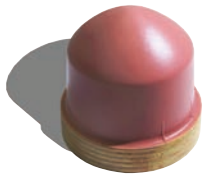
PAD 131

D: 67
H: 60

PRINT AREA

D: 32

PAD 224



D: 68
H: 66

PRINT AREA

D: 30

PAD 435

D: 30
H: 33

PRINT AREA

D: 18

PAD 445

L: 30
W: 30
H: 55

PRINT AREA

D: 20

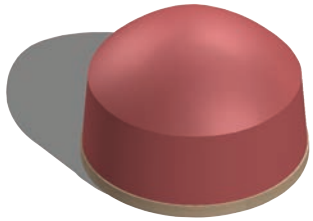
PAD 615

D: 63
H: 66

PRINT AREA

D: 20

PAD 1202



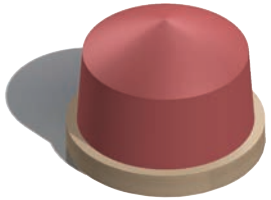
D: 152
H: 110

PRINT AREA

D: 90

ROUND PADS

PAD A30-07p



D: 95
H: 74

PRINT AREA

D: 56

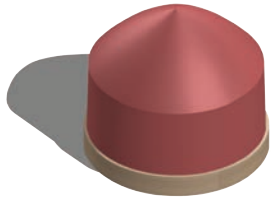
PAD A60-04

D: 153
H: 75

PRINT AREA

D: 88

PAD A60-05

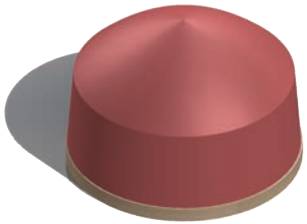


D: 75
H: 63

PRINT AREA

D: 38

PAD A228

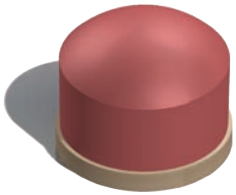


D: 160
H: 90

PRINT AREA

D: 95

PAD MP9



D: 78
H: 61

PRINT AREA

D: 50

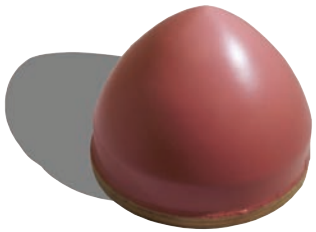
PAD P353

D: 25
H: 25

PRINT AREA

D: 13

PAD P3340/A1007

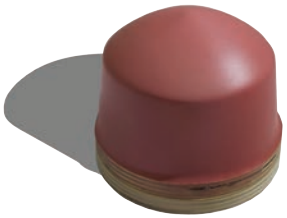


D: 140
H: 107

PRINT AREA

D: 70

PAD S390 [hollow]



D: 95
H: 81

PRINT AREA

D: 53

PAD TO27

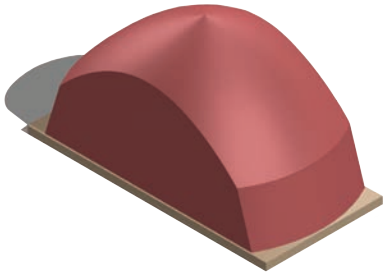
D: 93
H: 83

PRINT AREA

D: 46

CUT ROUND PADS

PAD 3/3IM (MMS)(WP)

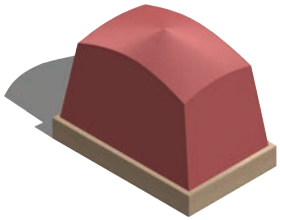


L: 295
W: 148
H: 178

PRINT AREA

L: 215
W: 110

PAD 22I

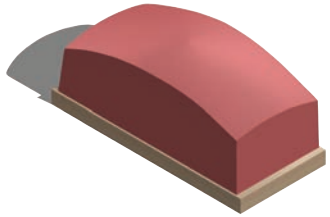


L: 68
W: 44
H: 52

PRINT AREA

L: 42
W: 24

PAD 29I

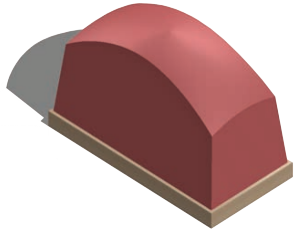


L: 135
W: 63
H: 59

PRINT AREA

L: 100
W: 43

PAD 30I

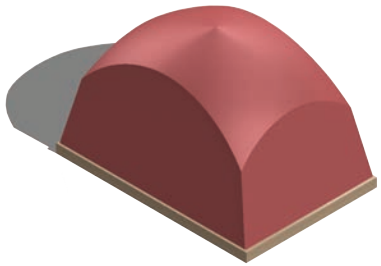


L: 126
W: 64
H: 72

PRINT AREA

L: 95
W: 33

PAD 40IM

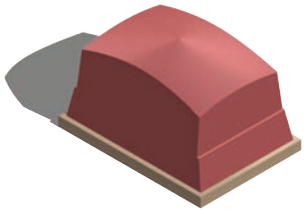


L: 184
W: 129
H: 123

PRINT AREA

L: 118
W: 69

PAD 53I

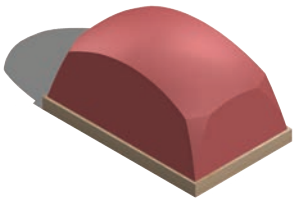


L: 139
W: 97
H: 84

PRINT AREA

L: 90
W: 55

PAD 59

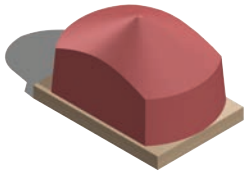


L: 123
W: 80
H: 61

PRINT AREA

L: 85
W: 45

PAD 60I

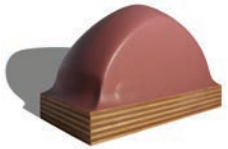


L: 97
W: 68
H: 62

PRINT AREA

L: 65
W: 38

PAD 67



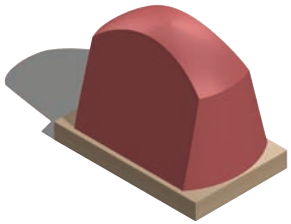
L: 105
W: 50
H: 67

PRINT AREA

L: 55
W: 25

CUT ROUND PADS

PAD 71

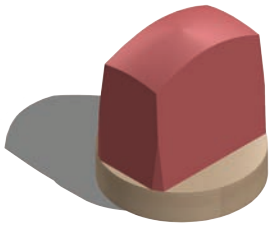


L: 80
W: 51
H: 63

PRINT AREA

L: 50
W: 14

PAD 72I



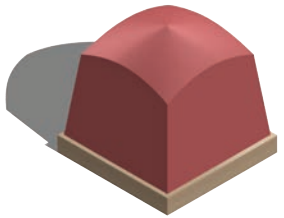
D: 43

H: 42

PRINT AREA

L: 30
W: 14

PAD 81P

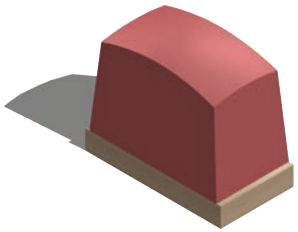


L: 70
W: 65
H: 62

PRINT AREA

L: 37
W: 37

PAD 85I

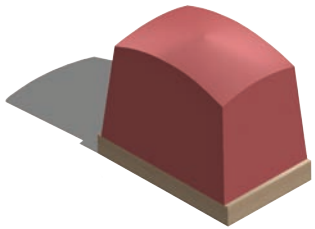


L: 63
W: 34
H: 51

PRINT AREA

L: 40
W: 20

PAD 89I

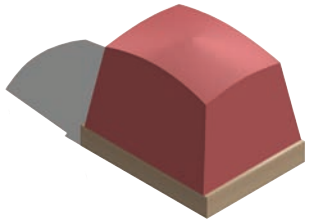


L: 71
W: 47
H: 69

PRINT AREA

L: 46
W: 26

PAD 90K

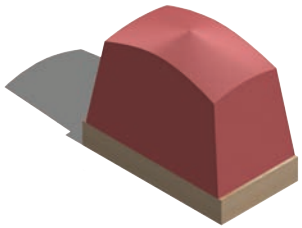


L: 64
W: 48
H: 53

PRINT AREA

L: 44
W: 27

PAD 91K

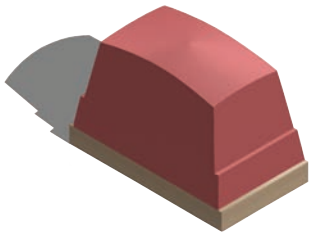


L: 57
W: 32
H: 49

PRINT AREA

L: 37
W: 17

PAD 93K

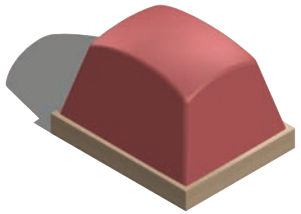


L: 72
W: 47
H: 60

PRINT AREA

L: 48
W: 25

PAD 95



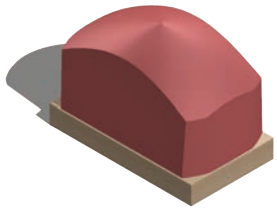
L: 74
W: 58
H: 49

PRINT AREA

L: 40
W: 23

CUT ROUND PADS

PAD 222

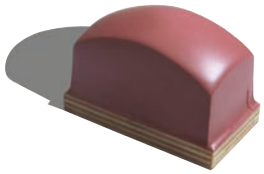


L: 72
W: 42
H: 54

PRINT AREA

L: 50
W: 25

PAD 223

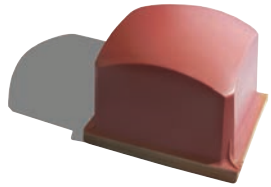


L: 72
W: 42
H: 48

PRINT AREA

L: 44
W: 24

PAD 233

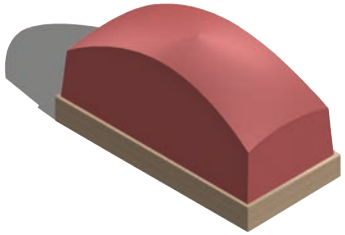


L: 84
W: 98
H: 76

PRINT AREA

L: 58
W: 50

PAD 248

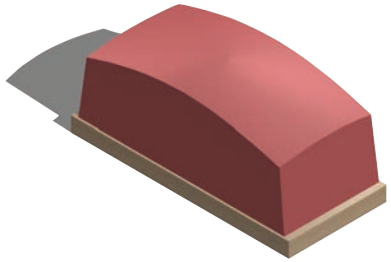


L: 105
W: 48
H: 62

PRINT AREA

L: 69
W: 28

PAD 266

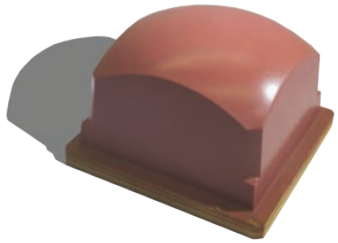


L: 157
W: 88
H: 86

PRINT AREA

L: 100
W: 49

PAD 281

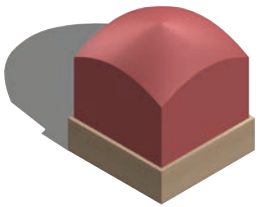


L: 116
W: 116
H: 76

PRINT AREA

L: 70
W: 70

PAD 318

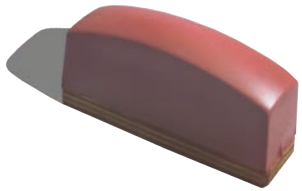


L: 32
W: 32
H: 39

PRINT AREA

L: 20
W: 20

PAD 368

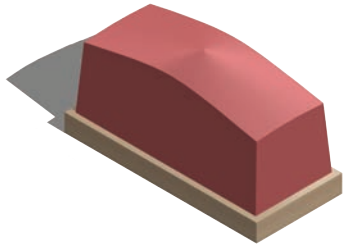


L: 98
W: 44
H: 58

PRINT AREA

L: 69
W: 21

PAD 386I



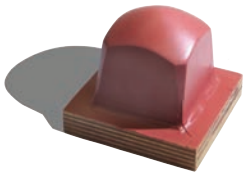
L: 98
W: 44
H: 58

PRINT AREA

L: 69
W: 21

CUT ROUND PADS

PAD 388-RMB (8220)

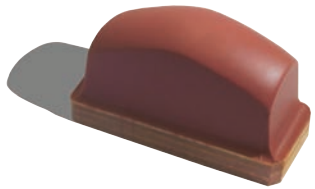


L: 56
W: 53
H: 50

PRINT AREA

L: 26
W: 26

PAD 396

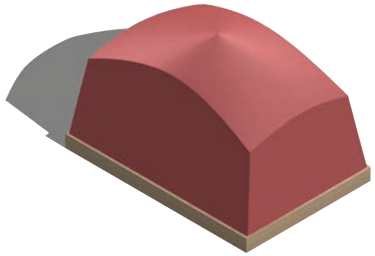


L: 76
W: 32
H: 41

PRINT AREA

L: 42
W: 14

PAD 396HA

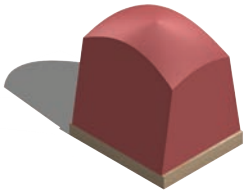


L: 223
W: 154
H: 130

PRINT AREA

L: 150
W: 78

PAD 402B

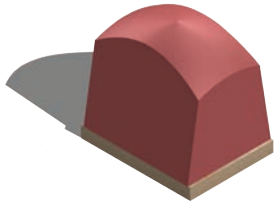


L: 74
W: 64
H: 85

PRINT AREA

L: 54
W: 29

PAD 402BW

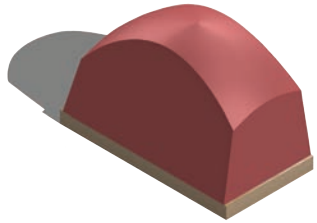


L: 96
W: 67
H: 87

PRINT AREA

L: 63
W: 29

PAD 402I

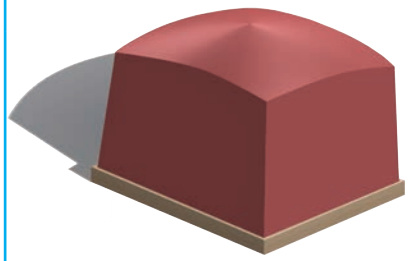


L: 148
W: 69
H: 85

PRINT AREA

L: 85
W: 29

PAD 405

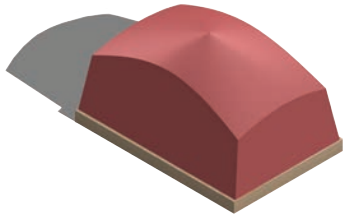


L: 210
W: 175
H: 180

PRINT AREA

L: 155
W: 110

PAD 407

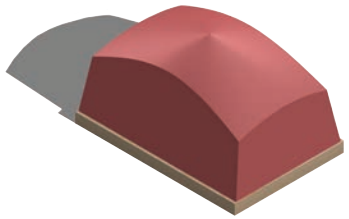


L: 140
W: 95
H: 83

PRINT AREA

L: 95
W: 48

PAD 407ABB



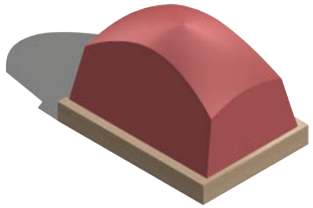
L: 138
W: 95
H: 81

PRINT AREA

L: 95
W: 50

CUT ROUND PADS

PAD 422

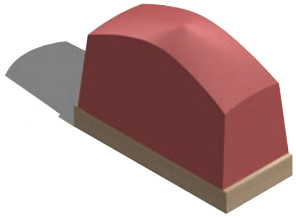


L: 77
W: 55
H: 51

PRINT AREA

L: 50
W: 23

PAD 423

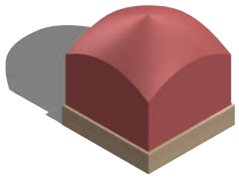


L: 78
W: 34
H: 55

PRINT AREA

L: 52
W: 16

PAD 485



L: 47
W: 47
H: 51

PRINT AREA

L: 34
W: 34

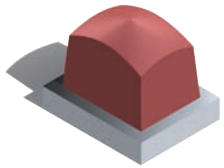
PAD 533

L: 32
W: 31
H: 38

PRINT AREA

L: 21
W: 21

PAD 534

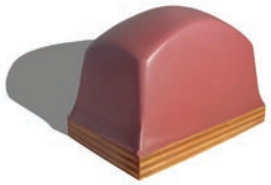


L: 25
W: 20
H: 22

PRINT AREA

L: 14
W: 9

PAD 560I

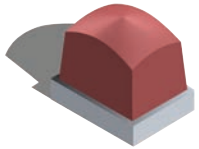


L: 81
W: 50
H: 56

PRINT AREA

L: 54
W: 25

PAD 609

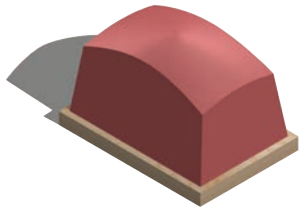


L: 22
W: 17
H: 20

PRINT AREA

L: 14
W: 10

PAD 620IM

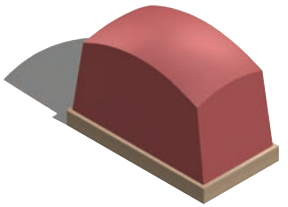


L: 97
W: 71
H: 66

PRINT AREA

L: 75
W: 45

PAD 766i



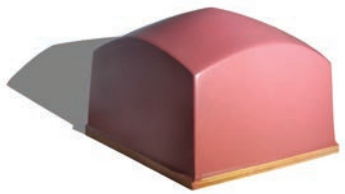
L: 94
W: 52
H: 62

PRINT AREA

L: 60
W: 34

CUT ROUND PADS

PAD 809

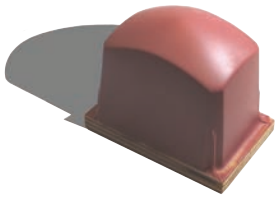


L: 147
W: 146
H: 109

PRINT AREA

L: 87
W: 86

PAD 817

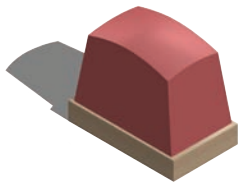


L: 78
W: 52
H: 67

PRINT AREA

L: 46
W: 30

PAD 853

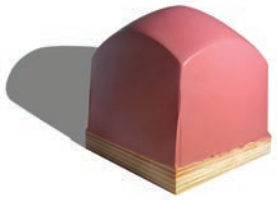


L: 51
W: 31
H: 44

PRINT AREA

L: 31
W: 18

PAD 867

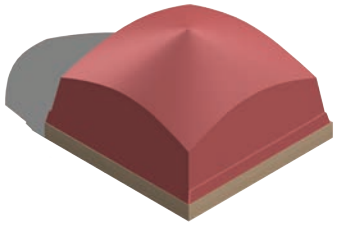


L: 108
W: 105
H: 113

PRINT AREA

L: 78
W: 73

PAD 884

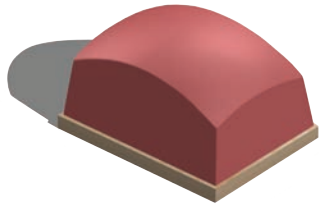


L: 107
W: 90
H: 73

PRINT AREA

L: 66
W: 66

PAD 906

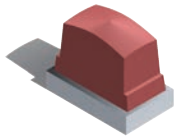


L: 144
W: 105
H: 83

PRINT AREA

L: 96
W: 72

PAD 2013

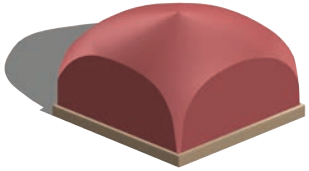


L: 23
W: 11
H: 23

PRINT AREA

L: 15
W: 6

PAD 8404I

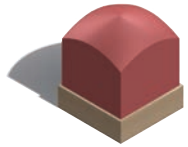


L: 132
W: 132
H: 98

PRINT AREA

L: 90
W: 90

PAD A599



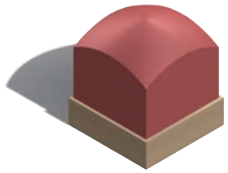
L: 32
W: 32
H: 40

PRINT AREA

L: 20
W: 20

CUT ROUND PADS

PAD A836



L: 46
W: 45
H: 52

PRINT AREA

L: 28
W: 28

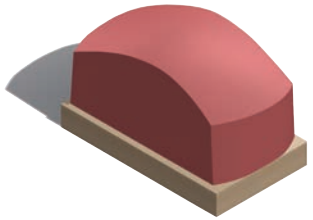
PAD LS019

L: 133
W: 106
H: 85

PRINT AREA

L: 75
W: 55

PAD M30-07

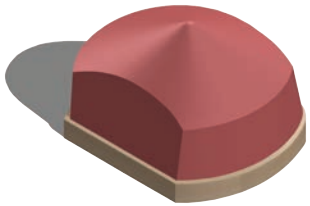


L: 133
W: 106
H: 85

PRINT AREA

L: 75
W: 55

PAD M60-02

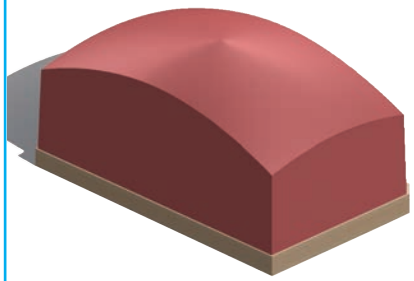


L: 133
W: 106
H: 85

PRINT AREA

L: 75
W: 55

PAD P517

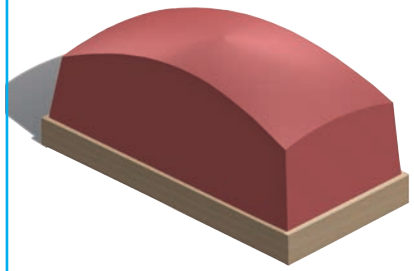


L: 354
W: 230
H: 165

PRINT AREA

L: 280
W: 152

PAD P517IM

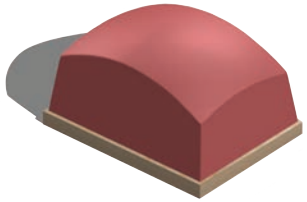


L: 354
W: 152
H: 165

PRINT AREA

L: 280
W: 90

PAD S241

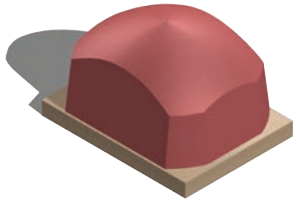


L: 134
W: 93
H: 79

PRINT AREA

L: 80
W: 56

PAD T166



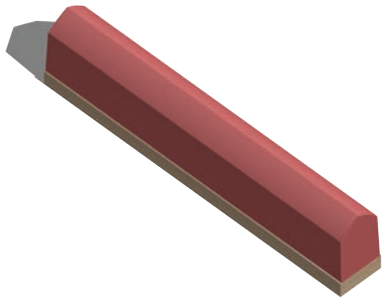
L: 97
W: 73
H: 65

PRINT AREA

L: 62
W: 41

ROOFTOP PADS

PAD 18

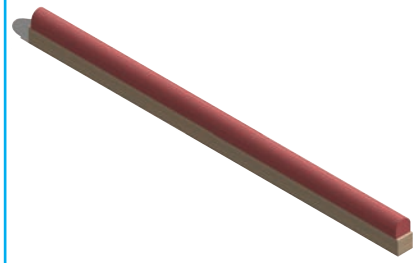


L: 202
W: 19
H: 28

PRINT AREA

L: 182
W: 10

PAD 98

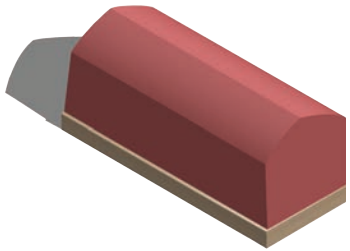


L: 245
W: 10
H: 19

PRINT AREA

L: 216
W: 5

PAD 174

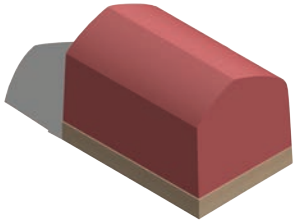


L: 150
W: 69
H: 74

PRINT AREA

L: 110
W: 44

PAD 174IM/85

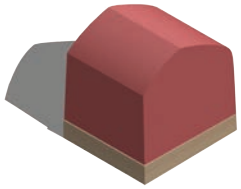


L: 85
W: 69
H: 74

PRINT AREA

L: 65
W: 44

PAD 174IM/55

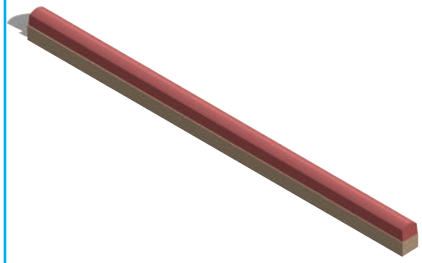


L: 55
W: 69
H: 74

PRINT AREA

L: 40
W: 44

PAD 200

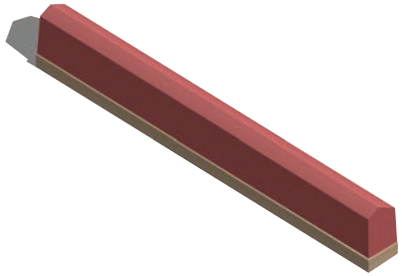


L: 705
W: 32
H: 56

PRINT AREA

L: 660
W: 20

PAD 206

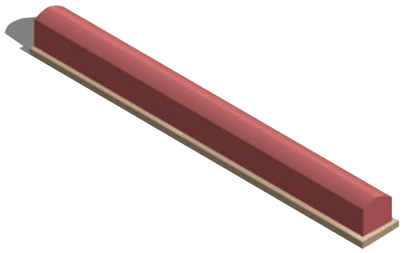


L: 210
W: 17
H: 26

PRINT AREA

L: 178
W: 9

PAD 229/330

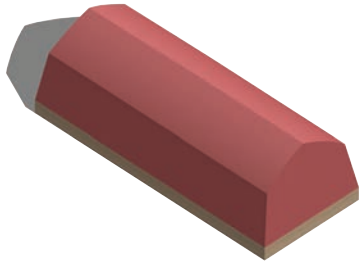


L: 335
W: 39
H: 31

PRINT AREA

L: 295
W: 14

PAD 251/200



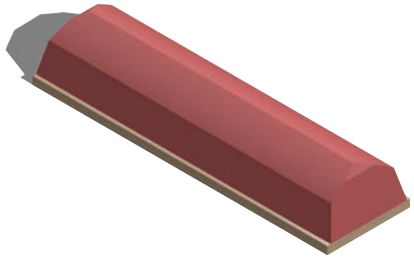
L: 213
W: 93
H: 61

PRINT AREA

L: 172
W: 47

ROOFTOP PADS

PAD 251/305

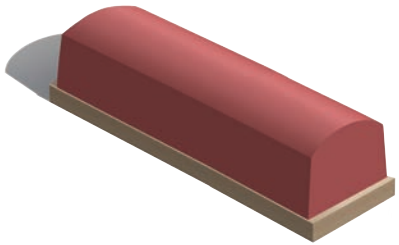


L: 338
W: 94
H: 58

PRINT AREA

L: 292
W: 47

PAD 256

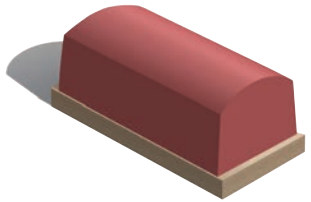


L: 238
W: 76
H: 63

PRINT AREA

L: 180
W: 40

PAD 256I

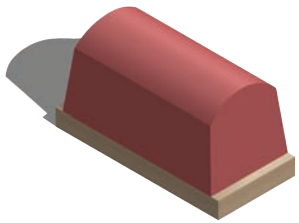


L: 155
W: 77
H: 64

PRINT AREA

L: 115
W: 40

PAD 265

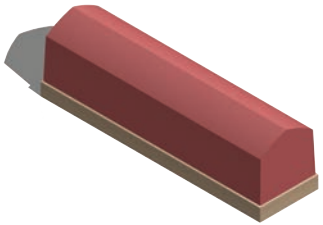


L: 90
W: 43
H: 48

PRINT AREA

L: 52
W: 23

PAD 381I

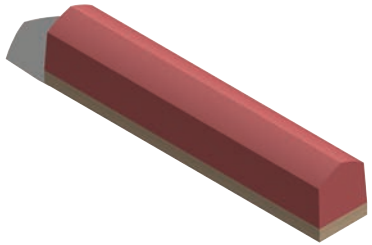


L: 156
W: 41
H: 51

PRINT AREA

L: 135
W: 26

PAD 382I

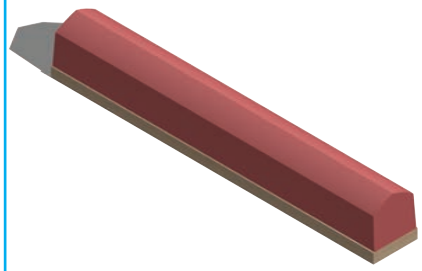


L: 229
W: 42
H: 50

PRINT AREA

L: 200
W: 26

PAD 383I

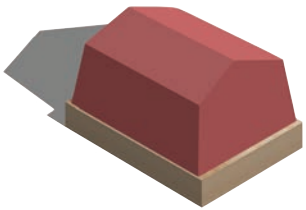


L: 305
W: 43
H: 49

PRINT AREA

L: 255
W: 26

PAD 510R

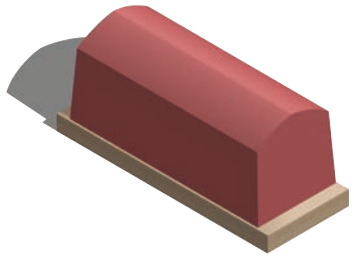


L: 68
W: 51
H: 52

PRINT AREA

L: 32
W: 32

PAD 541/110



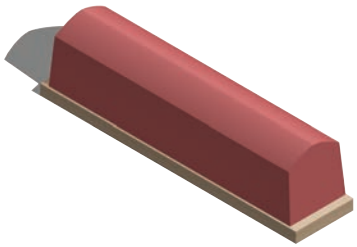
L: 130
W: 49
H: 55

PRINT AREA

L: 97
W: 30

ROOFTOP PADS

PAD 541/200

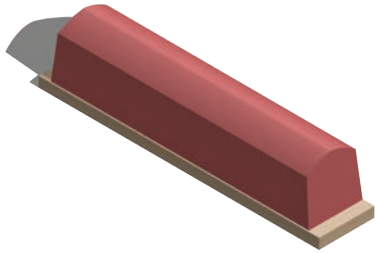


L: 216
W: 50
H: 57

PRINT AREA

L: 185
W: 32

PAD 541/220

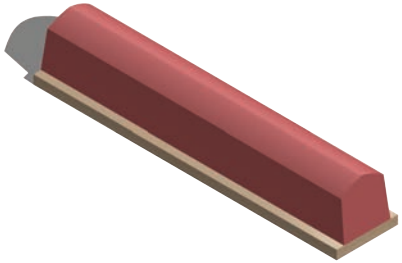


L: 240
W: 51
H: 60

PRINT AREA

L: 203
W: 32

PAD 541E

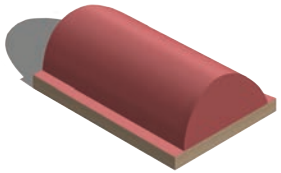


L: 269
W: 64
H: 59

PRINT AREA

L: 266
W: 30

PAD 639F

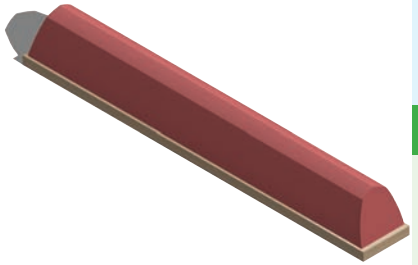


L: 74
W: 51
H: 32

PRINT AREA

L: 54
W: 19

PAD 706

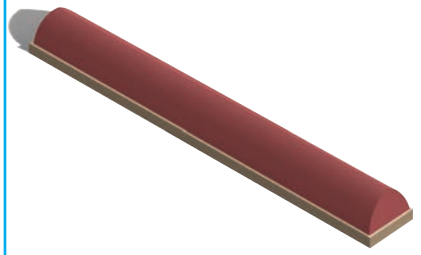


L: 380
W: 50
H: 51

PRINT AREA

L: 330
W: 18

PAD 712A



L: 265
W: 31
H: 27

PRINT AREA

L: 245
W: 15

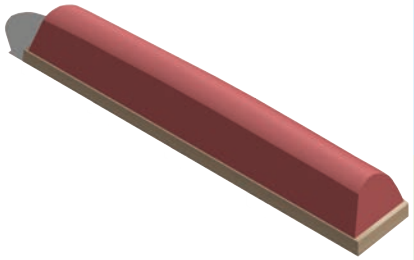
PAD 712B

L: 108
W: 31
H: 27

PRINT AREA

W: 95
L: 15

PAD 781I



L 216
W: 70
H: 53

PRINT AREA

L: 185
W: 21

PAD 1835

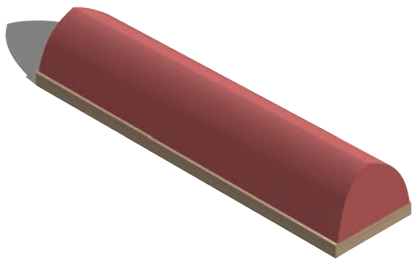
L: 43
W: 24
H: 36

PRINT AREA

L: 27
W: 6

ROOFTOP PADS

PAD 6166

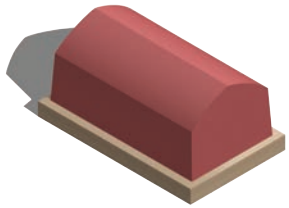


L: 250
W: 62
H: 52

PRINT AREA

L: 222
W: 32

PAD 6302

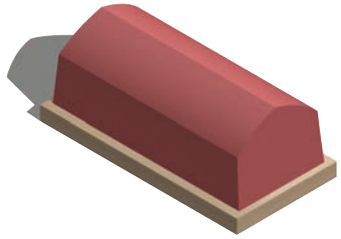


L: 103
W: 56
H: 52

PRINT AREA

L: 79
W: 39

PAD 6303

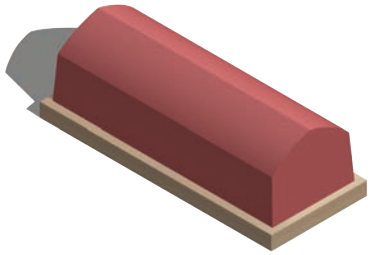


L: 125
W: 58
H: 53

PRINT AREA

L: 100
W: 39

PAD 6304

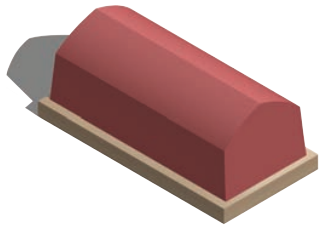


L: 151
W: 59
H: 52

PRINT AREA

L: 130
W: 39

PAD 6304IM

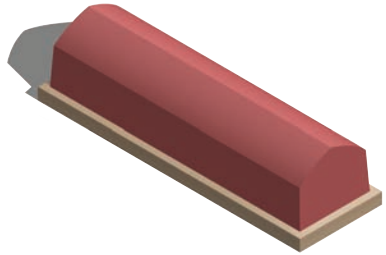


L: 120
W: 62
H: 53

PRINT AREA

L: 96
W: 39

PAD 6305

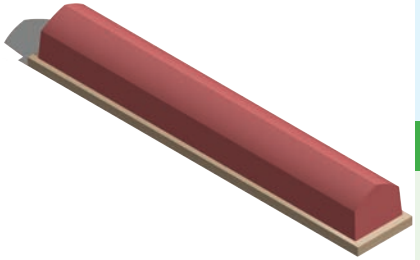


L: 200
W: 59
H: 52

PRINT AREA

L: 185
W: 39

PAD 6309

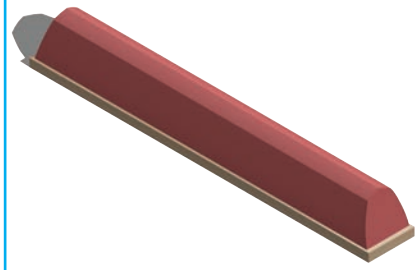


L: 388
W: 66
H: 52

PRINT AREA

L: 342
W: 36

PAD 7008

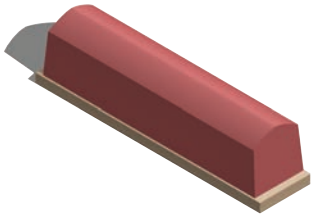


L: 440
W: 50
H: 52

PRINT AREA

L: 390
W: 20

PAD 7132



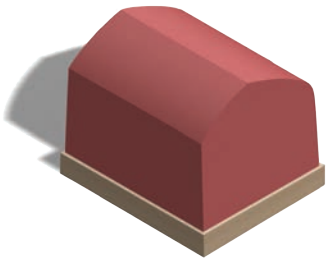
L: 103
W: 34
H: 35

PRINT AREA

L: 76
W: 17

ROOFTOP PADS

PAD A402



L: 150
W: 144
H: 125

PRINT AREA

L: 100
W: 75

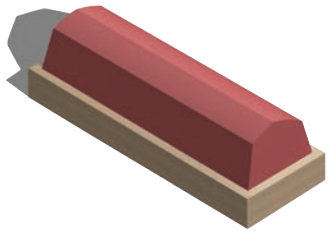
PAD PM29

L: 96
W: 47
H: 51

PRINT AREA

L: 52
W: 27

PAD SP170

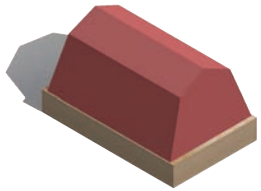


L: 126
W: 43
H: 40

PRINT AREA

L: 93
W: 15

PAD SP401

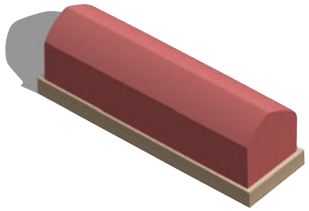


L: 64
W: 41
H: 37

PRINT AREA

L: 37
W: 18

PAD T087



L: 97
W: 31
H: 37

PRINT AREA

L: 66
W: 18

SADDLE PADS

PAD 13

D: 71

H: 56

PRINT AREA

L: 40
W: 33

PAD 15K

D: 71

H: 47

PRINT AREA

L: 38
W: 32

PAD 16

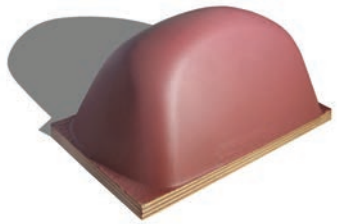
D: 71

H: 53

PRINT AREA

L: 43
W: 33

PAD 186

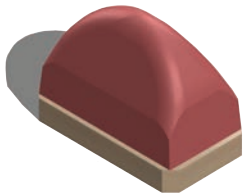


L: 167
W: 88
H: 84

PRINT AREA

L: 75
W: 18

PAD 517

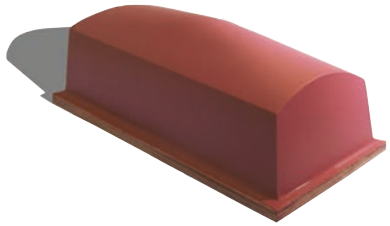


L: 51
W: 28
H: 39

PRINT AREA

L: 33
W: 6

PAD 599C

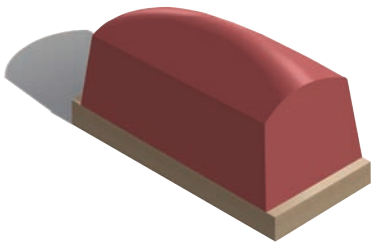


L: 310
W: 152
H: 120

PRINT AREA

L: 230
W: 80

PAD 629

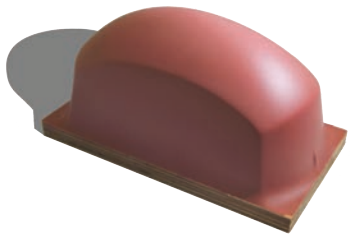


L: 194
W: 92
H: 94

PRINT AREA

L: 150
W: 50

PAD 650IM

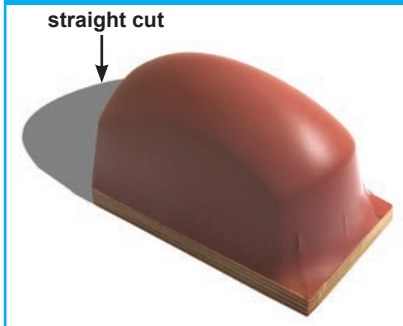


L: 183
W: 97
H: 92

PRINT AREA

L: 110
W: 45

PAD 650BW



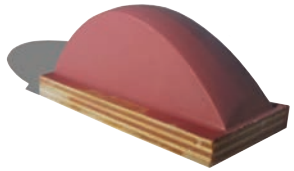
L: 148
W: 97
H: 92

PRINT AREA

L: 100
W: 45

SADDLE PADS

PAD 658

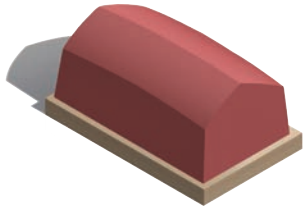


L: 90
W: 31
H: 39

PRINT AREA

L: 55
W: 9

PAD 699

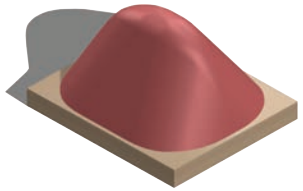


L: 119
W: 65
H: 58

PRINT AREA

L: 78
W: 43

PAD 773

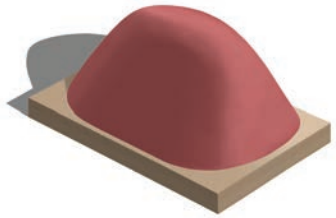


L: 87
W: 71
H: 49

PRINT AREA

W: 43
L: 12

PAD 774

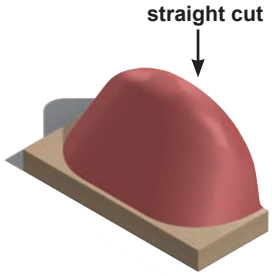


L: 86
W: 52
H: 49

PRINT AREA

L: 42
W: 13

PAD 774 SMC

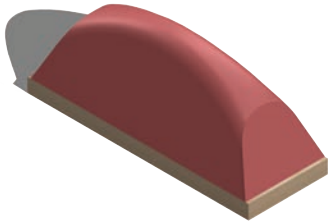


L: 85
W: 35
H: 46

PRINT AREA

L: 42
W: 13

PAD 777

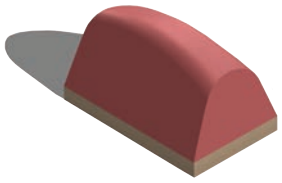


L: 140
W: 51
H: 57

PRINT AREA

W: 80
L: 15

PAD 777A

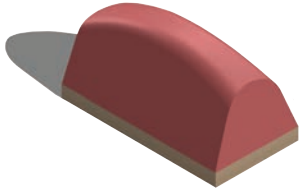


L: 140
W: 51
H: 57

PRINT AREA

W: 80
L: 15

PAD 777B

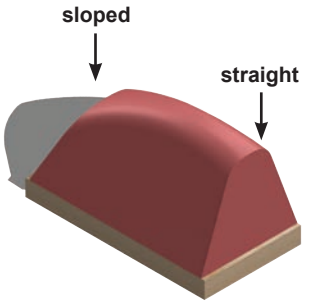


L: 140
W: 51
H: 57

PRINT AREA

W: 80
L: 15

PAD 777IM



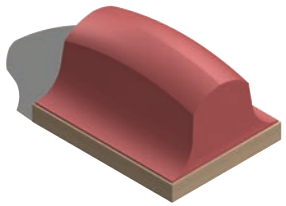
L: 97
W: 51
H: 57

PRINT AREA

L: 55
W: 15

SADDLE PADS

PAD 1691C



L: 86
W: 67
H: 58

PRINT AREA

L: 58
W: 22

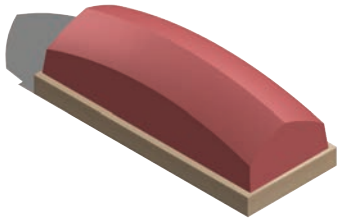
PAD P271 (694)

L: 59
W:
H: 55

PRINT AREA

L: 33
W: 25

PAD SP077

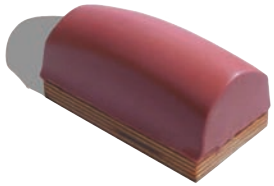


L: 121
W: 50
H: 46

PRINT AREA

L: 84
W: 25

PAD SP107



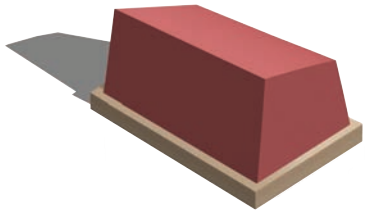
L: 84
W: 48
H: 47

PRINT AREA

L: 66
W: 25

SPECIAL PADS

PAD 20L

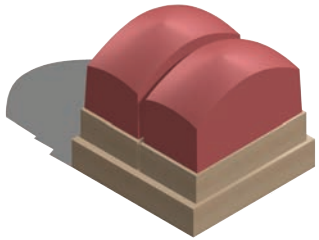


L: 99
W: 65
H: 56

PRINT AREA

L: 64
W: 23

PAD 26i_2UP

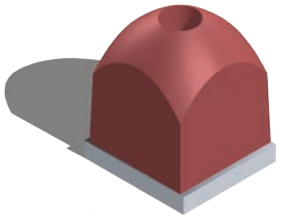


L: 48
W: 48
H: 44

PRINT AREA

L: 34
W: 12
(x2)

PAD P039

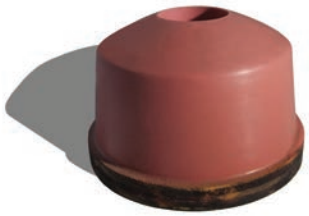


L: 61
W: 57
H: 76

PRINT AREA

L: 40
W: 40
-19 D

PAD 135 (L30)

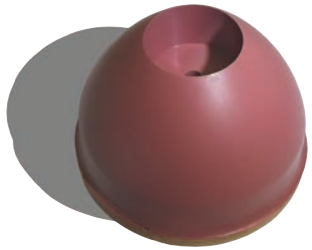


D: 94
H: 61

PRINT AREA

D:

PAD 1007M

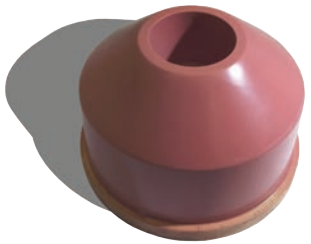


D: 140
H: 88

PRINT AREA

D: 68
Cutout 48

PAD L71W25-16



D: 150

H: 98

PRINT AREA

D: 80
Cutout 50