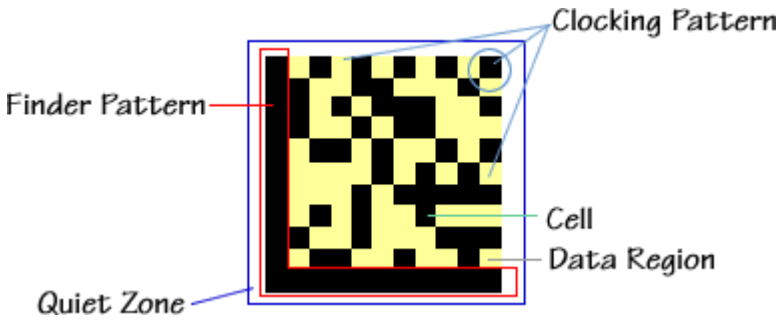
What Does a DataMatrix Code Look Like?

A theoretical DataMatrix code looks like this, with all cells being square in shape.

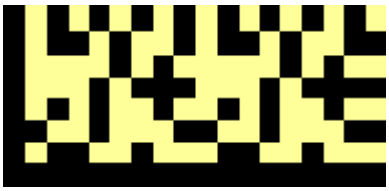
A DataMatrix code made with a TELESIS **PINSTAMP®** or any other dot peen marker, a DataMatrix code looks like this, with the "on" cells being circular in shape.



THE BASIC COMPONENTS OF A DATAMATRIX CODE, AS ILLUSTRATED ABOVE, ARE AS FOLLOWS:

- The quiet zone is an area around the code that must be free of any marking or any physical characteristics that the reader might interpret as markings. The required size of the quiet zone depends on the reader and marking technology used, but should never be narrower than the width of one cell.
- The finder pattern, or "L pattern", is made up of one column and one row, both consisting of all "on" cells, that meet in one corner of the code. The finder pattern is used by the reader to locate the code and determine its physical size.
- The clocking pattern is made up of one column and one row on sides of the code opposite those of the L pattern. The clocking pattern consists of alternating "on" and "off" cells, and is used by the reader to gauge the size of a cell.
- The data region is made up of all but the peripheral columns and rows of the code. It is in the portion of the code that "on" and "off" cells are used to encrypt the desired character string.

DATAMATRIX CODES CAN BE RECTANGULAR AS WELL AS SQUARE



Rectangular codes can be particularly useful when the area on the part available for marking is limited or oddly shaped.

CODE SIZES

DataMatrix codes can utilize any of a number of formats, known as error correction codes, or "ECC's" for short. By far, the most commonly used error correction code for direct part marking is ECC200. For ECC200, the maximum number of characters that can be encrypted in codes of various sizes in terms of rows and columns are as follows:

Maximum Number of Characters - Square Matrices

Rows x Columns	Maximum Number of Characters in Matrix*		
	Format Parameter = NUMERIC	Format Parameter = ALPHANUMERIC	Format Parameter = 8-BIT
10 x 10	6	3	1
12 x 12	10	6	3
14 x 14	16	10	6
16 x 16	24	16	10
18 x 18	36	25	16
20 x 20	44	31	20
22 x 22	60	43	28
24 x 24	72	52	34
26 x 26	80	64	42
32 x 32	80	80	60

*Square codes can be as large as 144x144

Maximum Number of Characters - Rectangular Matrices

Code Parameter = (see below) Rows x Columns	Maximum Number of Characters in Matrix*		
	Format Parameter = NUMERIC	Format Parameter = ALPHANUMERIC	Format Parameter = 8-BIT
8 x 18	10	6	3
8 x 32	20	13	8
12 x 26	32	22	14
12 x 36	44	31	20
16 x 36	64	46	30
16 x 48	80	72	47

PTR Sales Wixom, MI 48393
269-209-7291 248-361-7062