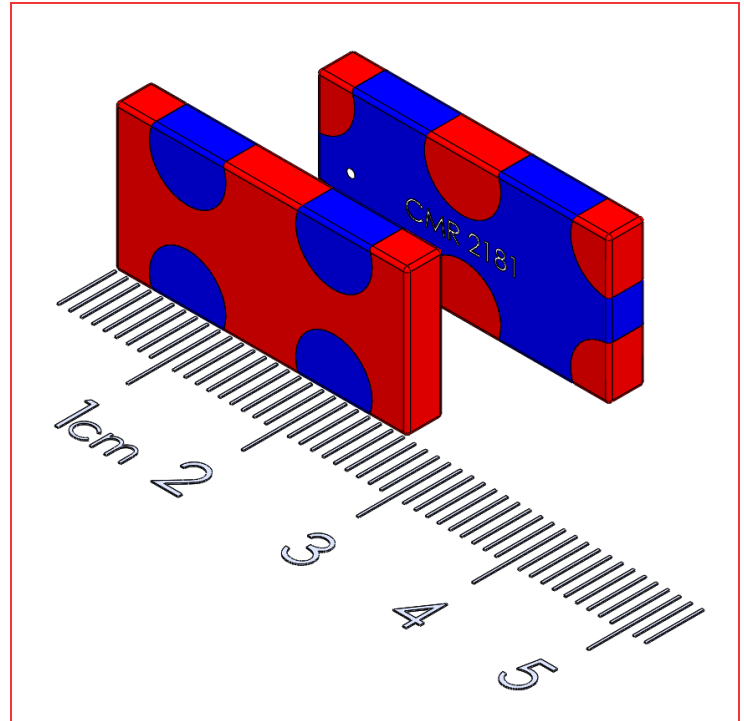


www.polymagnet.com

## 1002287 Sliding Latch Polymagnet Pair

Sliding Latch Polymagnets are engineered to possess two detents which provide tactile feedback as the magnet transitions from one position to the next. These Polymagnets are designed to provide a strong holding force when aligned and a weak repel force out of alignment, allowing the user to easily slide between positions.



### Features and Benefits

- Precise two position alignment
- 12.7mm spacing between detents
- 1002181 - 1 x 0.5 x 0.125 in
- 1002182 - 1 x 0.5 x 0.125 in

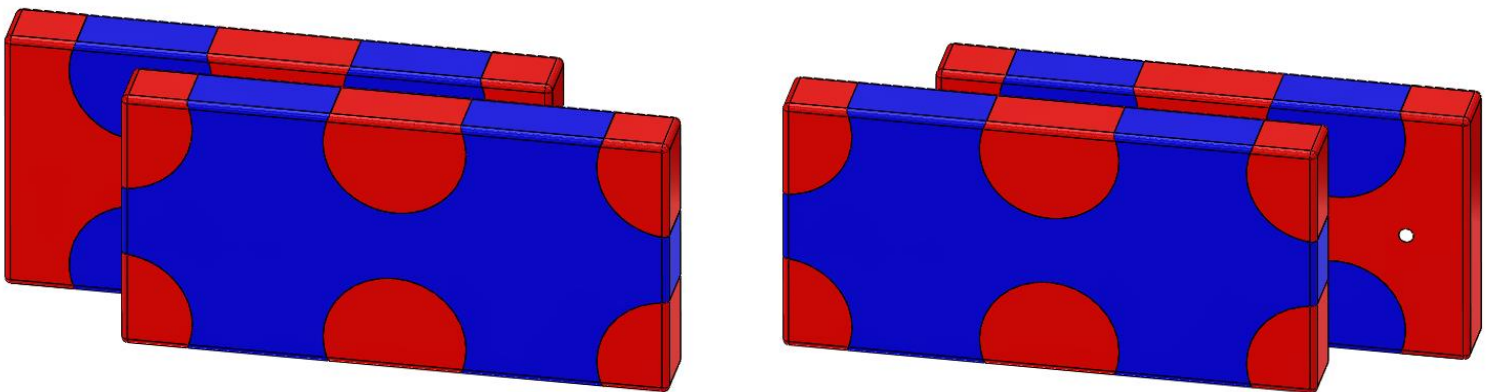
### Technical Specifications:

Dimensions:	1 x 0.5 x 0.125 in
	25.4 x 12.7 x 3.175 mm
Weight:	0.2oz (7.6g)
Material:	NdFeB
Magnet Grade:	N50
Coating:	NI-CU-NI
Temperature Rating:	140° F (60° C)

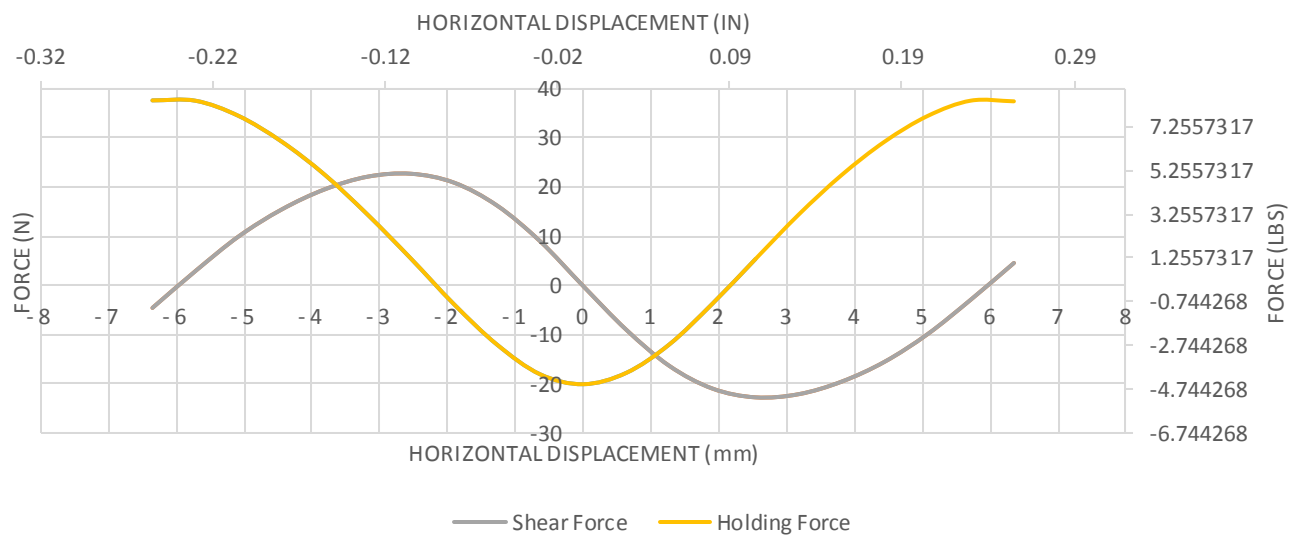
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This Polymagnet system should be constrained to obtain the desired latch function. In this constrained system, one magnet should be completely fixed while the other magnet is able to slide freely in a linear motion along the magnets longest axis. These magnets are designed to have two alignment positions such that the non-constrained magnet slightly overhangs the constrained counterpart. As the non-constrained magnet moves out of alignment the attract force changes to repel, between detents, allowing the magnet to “latch” into the next position.

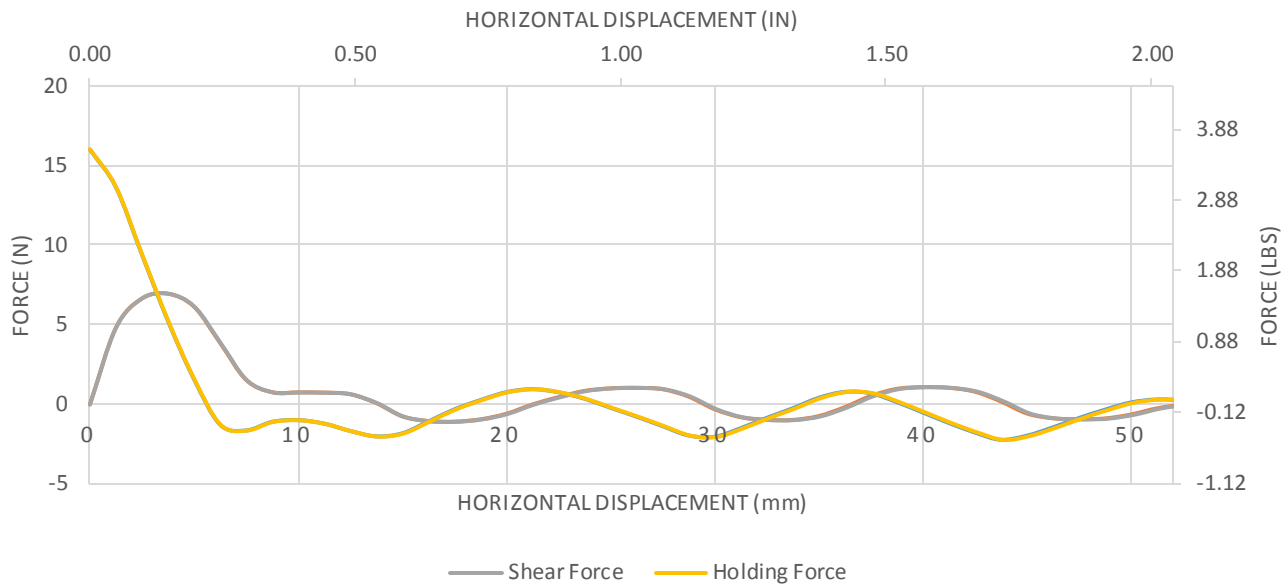
\*In the images below, north poles are indicated by the red regions and south poles are indicated by the blue regions.



### HOLDING FORCE VS HORIZONTAL DISPLACEMENT SHORT AXIS AT 1.5MM MAGNET TO MAGNET GAP



### HOLDING FORCE VS HORIZONTAL DISPLACEMENT AT 1.5MM MAGNET TO MAGNET GAP



When two 1002287 Polymagnets are laterally offset their attractive force decreases while their centering force increases. The magnets will have minor detents and a relatively low holding force when they are offset. This feature can be incorporated into a system to give feedback to the user during an assembly process.

#### Notes on Performance Data

The performance information provided in this data sheet is derived from test or simulation results of directly comparable magnets of the same size and grade under consistent conditions. The magnets are tested under controlled environmental conditions. Unconstrained application testing may give lower forces due to the magnet tilting or shifting away from target during engagement and disengagement.

#### Patent Information

Pat. [www.cmrpatents.com](http://www.cmrpatents.com)

