

## MP Depth Guide Book

BULLETIN N°: APPSLAB4\_18001\_MPDEPTHGUIDEBOOK

Diffusion: Gravotech Group Subsidiaries

Date: 23/03/2018

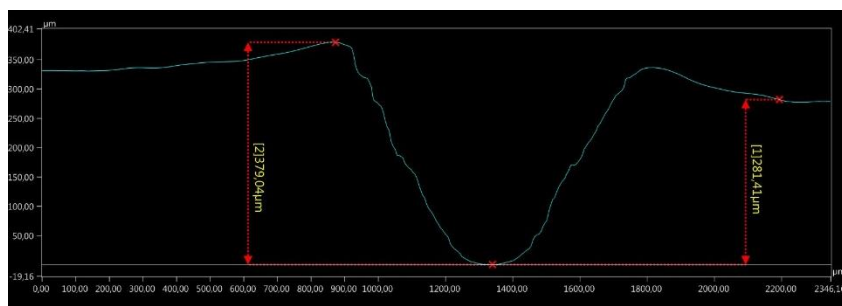
1

### Subject:

Inform about the depth we can reach with different Gravotech MP machines

### Method:

Make a marking on 2 different materials and measure the depth with a 3D microscope





### Performed tests:

We have marked on steel (290HB / 33HRC) and aluminum (110HB) with the following machines:

-  XF510Cp
-  XF530p
-  Impact p

-  XF510Sm
-  XF530m
-  XM700

-  XF510Sr
-  SV510

### Pneumatic MP (font 0, 6 bars):

Parameters					Measured Depth (1/10 mm)			
Machine	Stylus	Force	Speed	Part/Pin Distance (mm)	Steel		Aluminum	
					Mini	Maxi	Mini	Maxi
XF510Cp	S22 90°	50%	20/20	3	0,6	0,8	1,2	1,3
XF510Cp	S22 90°	100%	20/20	3	0,6	1	1,5	1,6
XF510Cp	S52 90°	50%	20/20	2,8	0,4	0,6	0,8	1
XF510Cp	S52 90°	100%	20/20	2,8	0,5	0,7	0,8	1
XF530p	S45 90°	100%	20/20	5	0,8	1,4	1,6	4,7
IMPACT p	S12 90°	3 bars	20/20	3	0,24	0,37	0,65	0,96
IMPACT p	S12 90°	6 bars	20/20	3	0,81	0,99	1	1,6
IMPACT p	S22 90°	3 bars	20/20	3	0,67	0,87	1,3	1,55
IMPACT p	S22 90°	6 bars	20/20	3	1,16	1,95	2,3	3,2
IMPACT p	S52 90°	3 bars	20/20	3	0,36	0,6	0,9	1
IMPACT p	S52 90°	6 bars	20/20	3	0,8	1	1,5	1,8

This document is the property of GRAVOTECH MARKING SAS.  
Reproduction in whole or in part without permission is prohibited.

## MP Depth Guide Book

BULLETIN N°: APPSLAB4\_18001\_MPDEPTHGUIDEBOOK

Diffusion: Gravotech Group Subsidiaries

Date: 23/03/2018

2

### Magnetic MP (font 1):

Parameters					Measured Depth (1/10 mm)			
Machine	Stylus	Force	Speed	Part/Pin Distance (mm)	Steel		Aluminum	
					Mini	Maxi	Mini	Maxi
XF510Sm	M1X 90°	50%	20/20	4	1,4	2	2,4	3,2
XF510Sm	M1X 90°	100%	20/20	4	1,6	2,4	2,8	3,8
XM700	M2S 90°	50%	20/20	5,5	2	2,3	2,5	3,2
XM700	M2S 90°	100%	20/20	5,5	2,6	2,8	4,3	4,9
XF530m	M2X 90°	50%	20/20	5	1,5	2,3	2,5	3
XF530m	M2X 90°	100%	20/20	5	2	2,9	4	4,8

### Scribing (font 0):

Parameters					Measured Depth (1/10 mm)			
Machine	Stylus	Pressure (bars)	Speed	Part/Pin Distance (mm)	Steel		Aluminum	
					Mini	Maxi	Mini	Maxi
SV510	V2 110°	2	20/20	2	0,8	0,9	1,6	2
SV510	V2 110°	4	20/20	2	0,9	1,5	2	2,6
SV510	V2 110°	6	20/20	2	1,5	2	2,7	2,8
XF510Sr	NA2 110°	2	20/20	2	0,2	0,2	0,8	0,9
XF510Sr	NA2 110°	5	20/20	2	0,9	1,2	1,4	1,8
XF510Sr	NA1 110°	3	20/20	2	0,1	0,2	0,5	0,6
XF510Sr	NA1 110°	6	20/20	2	0,4	0,5	0,9	1,1

### Information:

The best part/pin distance is determined by averaging the upper Z value until getting a light mark and the lower Z value until the stylus stalls



Scribing machine: maximal pressure for N2 and NA2 is 5 bars

Magnetic machine: never use the stylus without a part under it

For more information, write to [samples@support.gravotech.com](mailto:samples@support.gravotech.com)