Data points has been collected from simulation for four different clad bead heights, h and different laser power inputs, P which has been listed

i) Clad bead of height, h = 0.8 mm and width 1.2 mm

power(W)	width of HAZ w(mm)	depth of HAZ h(mm)	Radius of clad deposited(mm)
1000	1.3368	0.4506	0.625
600	1.208	0.0727	0.625

ii) Clad bead of height, h = 1 mm and width 1.2 mm

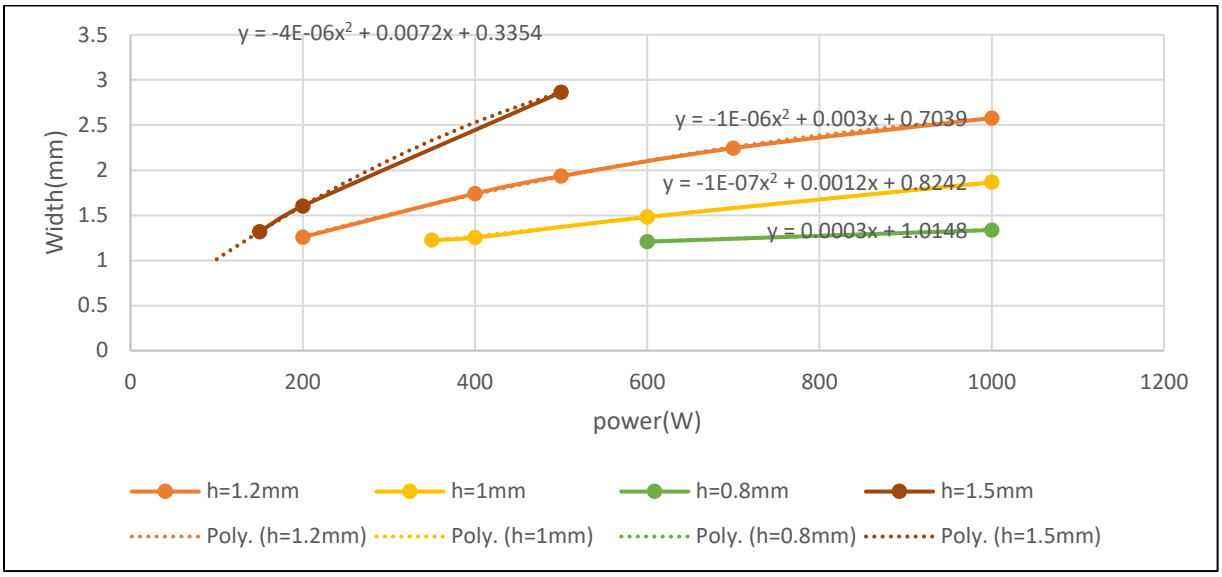
power(W)	width of HAZ w(mm)	depth of HAZ h(mm)	Radius of clad deposited(mm)
1000	1.8655	1.00379	0.68
600	1.48126	0.56594	0.68
400	1.25206	0.24927	0.68
350	1.22638	0.14664	0.68

iii) Clad bead of height, h = 1.2 mm and width 1.2 mm

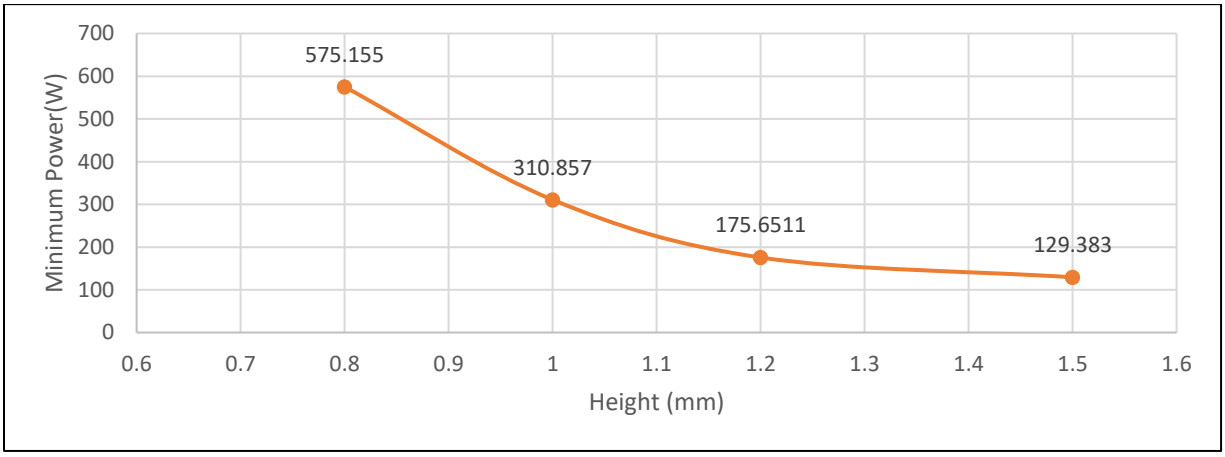
power(W)	width of HAZ w(mm)	depth of HAZ h(mm)	Radius of clad deposited(mm)
1000	2.578	1.893	0.75
700	2.2436	1.4943	0.75
500	1.9338	1.1021	0.75
400	1.7402	0.93503	0.75
200	1.25768	0.2893	0.75

iv) Clad bead of height, h = 1.5 mm and width 1.2 mm

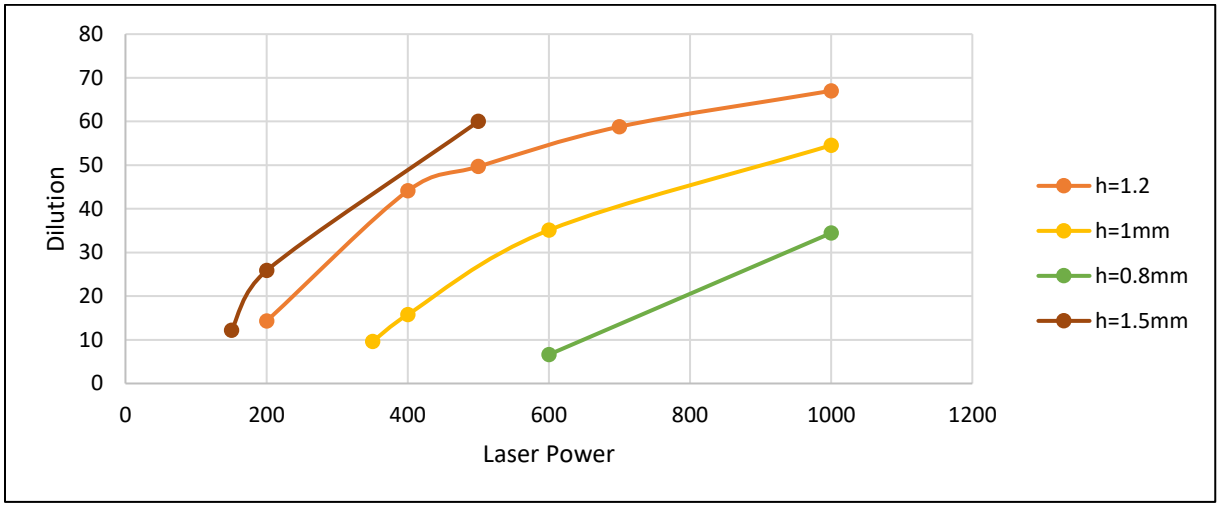
power(W)	width of HAZ w(mm)	depth of HAZ h(mm)	Radius of clad deposited(mm)
500	2.86198	1.62152	0.87
200	1.60274	0.63671	0.87
150	1.318	0.3274	0.87



Graph: Width of HAZ vs Laser Power



Graph: Minimum power vs Height of HAZ



Graph: Dilution percentage vs Laser power

RESULTS AND DISCUSSION

FUTURE SCOPE FOR INVESTIGATION

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