

NEW DEVELOPMENT IN SHOT BLASTING PROCESS AND MAINTENANCE OF EQUIPMENT

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The purpose of this technical paper is making foundries more aware about importance of fettling and shot blasting equipment, its design, construction and maintenance. It is useful to MSME units.

Most of the foundries think shot blasting and fettling are an out source activity. As soon as castings are cast and cooled, they are loaded on tractor and unloaded at shot blasting contractor's premises for shot blasting. Many foundries demand fettling and painting also to reduce their cost of man power and improve profitability. Contract based shot blasting out side has many disadvantages. First their machines are procured from small vendors, which are poor in design and quality, having no control on operation. Sometime castings are over blasted or under blasted. If castings are with fins and if they are broken, castings get rejected and create loss to foundry. When you outsource surface finish suffers. Shot blasting contractor normally uses S 660 (1.70mm) size steel shots (abrasive media) which gives longer life and reduced shot consumption but due to large size, castings get denting, increase in roughness and attract rejection. Sometime due to break down

of machine or under maintenance, delivery of blasted castings get delayed 5 to 6 days, affecting dispatches, billing and cash flow of foundry.

Most of the places fettling contractor prefers doing shot blasting where machine, space & power is supplied by foundry, Contractor, brings his man power, shot, spare parts and carries out various operations. Two Wheel Y Type Hanger 500 Kgs. and 1000 Kgs. Hook Capacity Shot Blasting Machine. Are the most popular among foundries.

Fig-1

Two Wheel Y type hanger shot blasting machine (Fig-1) is most suitable for small & medium foundries,



Typical production and approx. costing of 500 Kgs. and 1000 Kgs. Y Type Hanger as follows:

Model	2 Wheel Y Hanger	2 Wheel Y Hanger
Work Load Capacity	500 Kgs. Per Hook	1000 Kgs. Per Hook
Total HP	30 HP	60 HP
Job Size	1000mm Dia. x 1500mm Height	1500mm Dia. x 1650mm Height
Average Production	200 MT/Month/8 Hr. Shift.	325 MT/Month/8 Hr. Shift
Cost of Blasting		
Shot Consumption	4 Kgs/Ton x 200t = 800 kgs. per month	6 Kgs/Ton x 325t = 1950 kgs. per month
Shot Cost	800kgs x Rs.45/-=Rs 36000 per month	1950kgs x Rs.45/-=Rs 87750 per month
Power Cost	(30HP) Rs 900/day x 25 days = Rs. 22500/-	(60HP) Rs 1575/day x 25 days = Rs. 39375/-
Spare Part Cost	Rs. 7000/-	Rs. 10000/-
Labour Cost	2 x Rs 350/- x 25 days = Rs. 17500/-	3 x Rs 350/- x 25 days = Rs. 26250/-
Total Cost of blasting Per Month	Rs. 91500	Rs. 163375
Cost Per Ton	45 Paisa Per Kgs.	50 Paisa Per Kgs.