

PROCESS PROFILE

Product – HDPE Pipe

High-Density Polyethylene (HDPE) Pipe:

HDPE pipes are flexible plastic pipes made from high-density polyethylene, a thermoplastic material known for its durability and strength. They are widely used in a variety of applications, including water supply, gas distribution, irrigation, sewage systems, and industrial processes. HDPE pipes are preferred for their **corrosion resistance**, **lightweight nature**, and **flexibility**, which allows them to withstand environmental stresses such as earthquakes and soil movement.



Process Name: Business & Manufacturing of a HDPE Pipe		Process Owner: Likhith Anand	
Company: Vahini Irrigation PVT. LTD		Website: https://vahinipipes.com/	
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Processed Object: Product Order from Customer			
Process Inputs: <ul style="list-style-type: none">• BOM• Sales Order from Customer• Design specifications (Speed, Battery Life, additional features, etc.)• Quality Requirements<ul style="list-style-type: none">- ISO 4427(requirements for polyethylene pipes)- ISO 9001 (Quality Management System certification.• Raw Materials-<ol style="list-style-type: none">1. Resin H8292. Impact Modifier FM503. Impact Modifier B5644. PK7 Kaneka Chemical5. 629 Wax Inner Surface6. 4201/617 Wax Outer Surface7. Titanium8. UV		Suppliers: <ul style="list-style-type: none">• Rishabh Texim LPP-GJ• Silvin Additives• Basil Prompt Vinyl PVT. LTD• Ink Pack GMBH• Pac Mate GMBH• Aqua Supply GMBH	

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<div>9. 120 Oil</div> <div>10. Water</div> <div>11. Paper</div> <div>12. Plastic</div> <div>13. Ink</div> <div>14. Acrylic Resin</div>																																																																		
<div>Process Outputs:</div> <div>1.Order & Planning Outputs</div> <div>- Sales Order Confirmation (SAP)</div> <div>- Master Production Schedule (AP Plus)</div> <div>2. Integrated, evaluated product ready for Shipping.</div> <div>HDPE Pipes packaged, labelled, and stored in warehouse, ready for delivery or sales distribution.</div> <div>3. Certified quality assurance reports:</div> <div>Detailed quality assurance checks, calibration records from both In-House Test Lab as well as Third-Party Reports.</div>	<div>Customers:</div> <div>(SAP)</div> <div><div>Rohr GMBH</div><div>BAUG</div><div>Rhoen Grabfeld Maustechnik</div><div>Tech GMBH</div><div>Mainfranken Installationen</div><div>Ledward PVT. LTD</div><div>Pasadena PVT. LTD</div></div> <div>(AP +)</div> <div><div>Rohr GMBH</div><div>BAUG</div><div>Rhoen Grabfeld Maustechnik</div><div>Tech GMBH</div><div>Mainfranken Installationen</div></div>																																																																	
<div>Objectives and Performance Metrics:</div> <div><div>Process Time: 2 Hours / Piece (Target/Optimal)</div><div>First Pass Yield (FPY): 99% FPY for all assemblies.</div><div>Process Quality:</div><div>Must pass the below tests: -</div><div><div>-ISO 4427(requirements for polyethylene pipes)</div><div>- ISO 9001 (Quality Management System certification.</div></div><div>Optimal Costs:</div><div><table><tr><th colspan="5">Cost Components in Company Code Currency</th></tr><tr><th>CCo. Name of Cost Comp.</th><th>€</th><th>Overall €</th><th>Fixed €</th><th>Variable Crpy</th></tr><tr><td>10 Raw Material</td><td></td><td>10,84</td><td></td><td>10,84 EUR</td></tr><tr><td>20 Bought-in Part</td><td></td><td></td><td></td><td>EUR</td></tr><tr><td>25 Semifinished Product</td><td></td><td></td><td></td><td>EUR</td></tr><tr><td>30 Production Setup</td><td></td><td>0,16</td><td>0,16</td><td>EUR</td></tr><tr><td>40 Production Machine</td><td></td><td>2,20</td><td>0,65</td><td>1,55 EUR</td></tr><tr><td>50 Production Labor</td><td></td><td>1,55</td><td>1,11</td><td>0,44 EUR</td></tr><tr><td>60 Material Overhead</td><td></td><td></td><td></td><td>EUR</td></tr><tr><td>62 Production Overhead</td><td></td><td></td><td></td><td>EUR</td></tr><tr><td>68 External Activity</td><td></td><td></td><td></td><td>EUR</td></tr><tr><td>120 Miscellaneous</td><td></td><td></td><td></td><td>EUR</td></tr><tr><td></td><td></td><td>14,75</td><td>1,92</td><td>12,83 EUR</td></tr></table></div></div> <div><div>Cost per Unit: 20,65 €</div><div>Timeliness of Delivery: Target: 95% on-time delivery rate</div><div>Scrap and Rework Rate: Target: <3% waste and rework rate.</div><div>Customer Satisfaction Index (CSI):</div><div>Target: 4.5/5 or higher.</div><div>Customer Feedback for More Durability.</div><div>Downtime in Production: Target: <5% of total production hours or lower.</div></div>		Cost Components in Company Code Currency					CCo. Name of Cost Comp.	€	Overall €	Fixed €	Variable Crpy	10 Raw Material		10,84		10,84 EUR	20 Bought-in Part				EUR	25 Semifinished Product				EUR	30 Production Setup		0,16	0,16	EUR	40 Production Machine		2,20	0,65	1,55 EUR	50 Production Labor		1,55	1,11	0,44 EUR	60 Material Overhead				EUR	62 Production Overhead				EUR	68 External Activity				EUR	120 Miscellaneous				EUR			14,75	1,92	12,83 EUR
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