

Plastics Technology Top Shops 2022

Thank you for participating in the *Plastics Technology* Top Shops Benchmarking Survey for injection molding which highlights the attributes shared by leading facilities. By fully completing this survey, you will receive a benchmarking report customized for your facility. This survey pertains to injection molding, specifically. **Please proceed only if your facility performs injection molding.**

To take advantage of the many benefits of participating in Top Shops, all you have to do is:

- **1. Fully complete the survey** for maximum value. It's in your best interest for benchmarking and scoring. It may take time to get some data it's worth it. You may have reservations about answering certain questions. Don't worry, all responses will remain confidential.
- 2. Provide your email address to receive a report customized for your facility, showing where it is strong, on track, and has opportunities.
- 3. Enter your contact info if you want a chance to be profiled in an upcoming issue of *Plastics Technology*.
- **4. Select 'Submit Responses'** on the final page once you do not intend to return to the survey again **before April 30, 2022.** If you get interrupted while completing the survey, you may close and return to it using the same device as many times as you like until you select 'Submit Responses.'

<u>Click here</u> to download a PDF of the survey if you want to review the questions before entering your answers.

Remember to **complete it by April 30, 2022**. If you have questions, please contact Jan Schafer, Director of Market Research, at jschafer@gardnerweb.com or 513-527-8952.

٠.	1. Which primary processes does your facility perform? Select ALL that apply.
	Injection molding
	Blow molding
	Thermoforming
	Extrusion (any type)
	None of these



Injection molding		
Blow molding		
Thermoforming		
Extrusion (any type)		



Before we begin...

Most questions refer to 'your facility,' and here's how we'd like you to think about it...

If your company has more than one location, please answer all survey questions in terms of the scope for which you have the most access to operations and performance data.

- That means in some cases, answers are for the total company, multiple locations combined.
- In other cases, answers are for one location only.
- Sometimes, different people submit Top Shops surveys for different locations of the same company.
- In a few instances, one person submits surveys for different locations of the same company (That scenario is an exception, but if it applies to you, please let us know as we'll have to adjust survey programming.)

If you are a captive facility, answer survey questions in the terms your facility uses to report metrics to the broader company. You may have different considerations or use tweaked formulas, but you should be able to provide the information requested.

Most important is that you be consistent throughout the survey as far as the location(s) to which your responses apply.

Please also note that questions pertain to 2021 unless indicated otherwise.



Company & Contact Information

3. To receive a custom report of your facility's results, please fully complete the survey and provide your email address:				
4. For the option to be	part of the Top Shops Honors Program, please provide the following information	on:		
Your Name:				
Job Title/Position:				
Company Name:				
Address:				
City/Town:				
State/Province:				
ZIP/Postal Code:				
Country:				
Company Website:				
Company Phone Number:				



Profile Information

This first section of the survey includes questions pertaining to the general characteristics that help describe your facility. You may need to refer to company data to answer some of the following questions.

Please read the instructions at each question for the accepted format for responses. If you receive an error message and your format is correct, your value is likely an exception outside of the reasonable range, and won't be accepted.

5. Approximately how many individual pieces did your facility mold in 2021?
Please enter a whole number only; no decimals, commas, or other symbols.
6. Approximately how many active tools did your facility have in 2021?
Please enter a whole number only; no decimals, commas, or other symbols.
7. How many injection molding machines are in your facility?
Please enter a whole number only; no decimals, commas, or other symbols.
8. What is the average age (in years) of the injection molding machines in your facility?
Please enter a whole number only; no decimals, commas, or other symbols.



Profile Information 9. Which materials does your facility process? Select ALL that apply. Polyolefins Liquid Silicone Rubber PET Thermoplastic Elastomers PVC **Bioplastics** PUR Recycled plastics **Engineering Thermoplastics** None of these 10. How many total pounds of resin did your facility process in 2021? Please enter a whole number only; no decimals, commas, or other symbols. 11. How many different resins (not grades) did your facility process in 2021? Please enter a whole number only; no decimals, commas, or other symbols.



Profile Information 12. Which secondary processes does your facility perform? Select ALL that apply. Assembly Welding/joining Decoration (hot stamping, pad printing) **CNC** machining Plating Annealing Painting None of these 13. Which, if any, value-added services did your facility offer in 2021? Select ALL that apply. Additive manufacturing Product testing Contract manufacturing Shipping/packaging/labeling Inventory stocking/logistics Product design Other (please specify) No value-added services offered



Profile Information

Aerospace, commercial	Industrial Motors/Hydraulics/Mechanical Components
Aerospace, general aviation	Machinery/Industrial Equipment
Appliances	Marine/Ship & Boat Building
Architectural/Infrastructure/Construction Components	Mass Transit
Automotive	Medical/Dental
Consumer Goods	Offroad/Construction/Agricultural Machinery
Defense/Government	Oil/Gas Field & Mining Machinery
Electronics/Computers	Packaging
Energy Storage (pressure vessels)	Power Generation (turbines, batteries)
Firearms/Ammunition	Pumps, Valves & Plumbing
Forming & Fabricating (non-automotive)	Sporting Goods
Furniture Manufacturing	Wind Energy
Hardware/Fasteners	Wire Goods/Pipes
Other (please specify)	
. Which category best describes your facility's relat	tion to its customer base? Select ONE only.
Captive (component of a larger company)	
Custom/Contract (independent)	



Profile Information
16. Which of the following, if any, describe your company? Select ALL that apply.
Family owned
Minority owned
Veteran owned
Woman owned
None of these
17. Of which trade associations was your facility, or were your employees, a member in 2021? Select ALL t
apply. PLASTICS
MAPP
○ SPE
Other (please specify)
18. As of the end of 2021, about how many years had your facility been in business?
Please enter a whole number only; no decimals, commas or other symbols.
19. What is the total square footage of your entire building? Enter your best estimate if you do not have the
measurements handy.
Please enter a whole number only; no decimals, commas or other symbols.



Injection Molding

This section of the survey includes questions pertaining to practices directly involved in injection molding.

	s at each question for the accepted format for responses. If you receive an error message and your format an exception outside of the reasonable range, and won't be accepted.
20. What ONE type	e of injection molding machine does your facility use most? Select ONE only.
Horizontal moldi	ng
Vertical molding	
percentages should a	e percentage of your facility's injection molding machines that are each type. Your dd up to 100. s a whole number. Percent signs, decimals and non-numeric characters are not
22. Did your facility Yes No Not sure	y set a goal of holding a certain tolerance level in 2021?



Injection Molding

1? Select the option that comes closest.
our facility's injection molding machines? Select ALL
s at your facility in 2021? Select all that apply.
Honeycomb dryer
Hopper dryer
Vacuum dryer

	any, specialty injection molding to	echnologies does your facility offer? Select ALL the	at ap
2-shot			
Gas/wat	er-assist		
MuCell r	nicrocellular foam		
Inmold la	beling/inmold decoration		
Insert m	olding		
Other (p	ease specify)		
None			
28. Does yo	ur facility have an in-house tool roo	m?	
Yes			
O No			



Injection Molding
29. What purpose does your your in-house tool room serve? Select ALL that apply.
Mold building
Mold repair
Other (please specify)
30. What percentage of your facility's molds used hot runner technology in 2021?
Please enter a whole number only; no decimals, commas, or other symbols.
31. What <u>percentage</u> of your facility's molds featured more than 16 cavities in 2021?
Please enter a whole number only; no decimals, commas, or other symbols.
32. What <u>percentage</u> of your facility's molds included in-mold sensing for <u>temperature</u> 2021? Please enter a whole number only; no decimals, commas, or other symbols.
Trease enter a vinere namber entry, no decimals, commas, or ether symbols.
33. What percentage of your facility's molds included in-mold sensing for pressure 2021?
Please enter a whole number only; no decimals, commas, or other symbols.
34. Does your facility use automation ?
Yes
○ No



Injection Molding 35. What types of automation does your facility use? Select ALL that apply. Articulated arm Cartesian Sprue picker Other (please specify) 36. Which types of inspection equipment does your facility use? Select ALL that apply. CMM in quality department Portable measuring arms Laser trackers Vision systems Microscopes None of these Plant floor CMMs 37. Which types of **software** does your shop use? Select ALL that apply. CAD systems-2D PLM software CAD systems—3D Process monitoring CAM programming software Production monitoring CMM programming software SPC/quality management software ERP/MRP software Toolpath simulation/verification software Job-estimating software None of these Mold flow analysis



Injection Molding

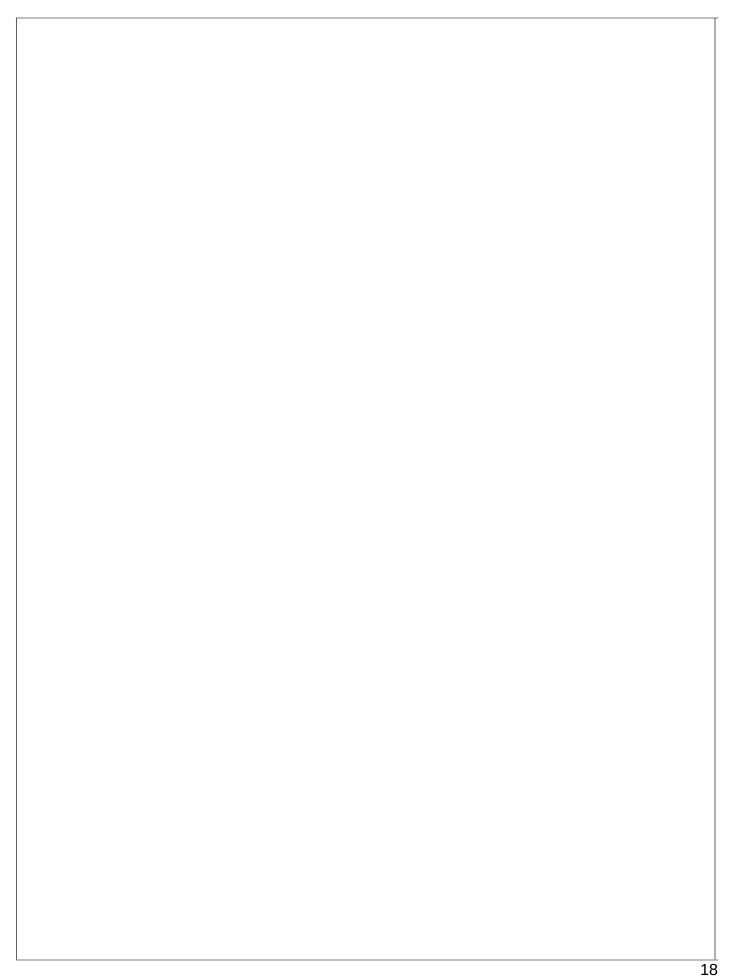
mjeodom Molamy	
38. Which of the following practices and improvement n	nethodologies does your facility use? Select ALL that
apply OR the last option only.	
5S workplace organization	Lean manufacturing
Benchmarking	Overall Equipment Effectiveness (OEE) monitoring and
Cellular manufacturing	analysis
Continuous improvement program Customer surveys Daily layered accountability	Poka yoke (error prevention)
	Six Sigma
	Theory of constraints
Design of experiments	Total productive maintenance
Just-in-time movement of materials	Total quality management
	Value-stream mapping
Kaizen events/blitzes	No formal methodology
Kanban and pull systems	No formal methodology
39. How many hours per week was your facility open for page 2. Please enter a whole number only; no decimals, commas,	_
40. What was your facility's average machine usage in 20 production in a 24 hour day. Your answer should be between 1 and 24. You may enter a Example: For 8 hours, you would enter 8. For 8 1/2 hours,	a decimal, but no other signs or symbols.

41. What was your facility's average capacity utilization in 2021?
There is no single formula that fits how every facility figures capacity utilization. For this question, please
think about what you consider to be at full capacity for your facility. Then enter as a percentage, the degree to
which your facility's capacity was typically in use relative to being at full capacity in 2021.
You may enter a decimal, but no other signs or symbols.
Example: if your facility was typically using capacity that represented 85% of full capacity in 2021, meaning
your facility typically had 15% capacity available, you would enter 85 for capacity utilization.
your racinty typically mad 15% capacity available, you would effect 65 for capacity atmization.



Injection Molding
42. What was your facility's average setup/startup time in 2021?
Please respond in terms of <u>minutes</u> and enter a whole number only; no decimals, commas, or other symbols.
43. What was your facility's average number of changeovers per day in 2021?
You may enter a decimal, but no other signs or symbols.
Example: For 6 changeovers you would enter 6. For 6 1/2 changeovers you would enter 6.5.
44. What was your facility's average mold-change time in 2021?
Please respond in terms of <u>minutes</u> and enter a whole number only; no decimals, commas, or other symbols.
45. What was your facility's finished product first-pass quality yield in 2021, defined as the <u>percentage of</u>
products passing inspection on the first attempt?
Enter your number without a % sign. You may enter a decimal, but no other signs or symbols.
Example: For 80%, you would enter 80. For 80.5%, you would enter 80.5
46. What was your facility's scrap rate in 2021, defined as the <u>number</u> of parts scrapped internally as a
percentage of total parts? Enter a number between 0 and 100 without a % sign.
You may enter a decimal, but no other signs or symbols.
Example: If you molded 1000 parts and 83 were scrapped, you would enter 8.3.
47. Did your facility process in-house scrap material in 2021?
Yes

O No





Injection Molding

injection wolding
48. What <u>percentage</u> of your facility's scrap material is reused or diverted from landfills ? Enter your number without a % sign.
You may enter a decimal, but no other signs or symbols.
Example: For 80% you would enter 80. for 80.5% you would enter 80.5.
49. Did the average price your facility paid per pound of resin increase, stay about the same, or decrease in 2021 compared to 2020?
☐ Increased
Stayed about the same
Decreased
50. What was your facility's order lead time in 2021, defined as the average <u>number of days</u> from receipt of order to delivery to customer.
Please enter a whole number only; no decimals, commas, or other symbols.
51. What was your facility's on-time delivery rate in 2021, defined as the number of shipments made on or before scheduled ship date as a percentage of the total number of shipments. Enter your number without a % sign.
You may enter a decimal, but no other signs or symbols.
Example: For 80%, you would enter 80. For 80.5%, you would enter 80.5.
52. Did your facility have any accident incidents in 2021?
Yes
○ No



Injection Molding

53. What was your facility's **accident incident rate for plant floor employees** in 2021, defined as the number of plant floor accident incidents as a percentage of the typical number of plant floor staff. Enter your number without a % sign.

Example: if you had 2 accident incidents in 2021 and your plant floor staff typically totals 30, you would enter 6.67.

0.07.	
You may enter a decimal, but no other signs or symbols.	



The next section of the survey includes questions pertaining to financial, operational and customer information.

Accessing/using customer forecasts	Just-in-time deliveries to customers
Certification of major suppliers	Sharing forecasts with suppliers
Collaborative design/DFM with customers	Inventory managed by suppliers
Collaborative design/DFM with suppliers	Inventory managed for customers
Customer satisfaction surveys	None of these
Just-in-time deliveries from suppliers	
Advertising - online	Industry awards/recognition
Advertising - print (e.g. magazines)	Online keyword advertising (e.g. Google)
Blogs	Online videos
Brochures/catalogs	Open house
Company website	Sales personnel
	Social media (Facebook, Twitter, YouTube, etc.)
Customer tours of your shop	
Customer tours of your shop Directory listing - online	Trade shows/events
	Trade shows/events None of these



Please read the instructions at each question for the accepted format for responses. If you receive an error message and your format is correct, your value is likely an exception outside of the reasonable range, and won't be accepted.

56. Please provide your plant's total revenue for 2021 in US dollars. Providing your plant's revenue confidentially enables us to perform useful calculations on your behalf.
Please enter a whole number only; no decimals, commas, or other symbols.
57. Please provide your plant's 2021 gross sales per machine in US dollars.
Round to the nearest dollar and enter without any signs or symbols.
Example: If your gross sales were \$5000 and you have 5 machines, you would enter 1000.
58. Please provide your plant's 2021 gross sales per employee in US dollars.
Round to the nearest dollar and enter without any signs or symbols.
Example: If your gross sales were \$5000 and you have 20 employees, you would enter 250.
Example. If your gross sales were \$5000 and you have 20 employees, you would effer 250.
59. Please provide your plant's percent change in annual sales from <u>2020 to 2021</u> using the following
formula. Round to the nearest whole number, using a minus sign if necessary.
Formula = [(2021 gross sales - 2020 gross sales) / 2020 gross sales] * 100
Example: If your 2020 sales were \$4000 and your 2021 sales were \$5000, you would enter 25.
60. Were any capital investments made in your facility in 2021?
Yes
○ No
Not sure



61. How much did your facility spend (in US dollars) on capital equipment in 2021?
Round to the nearest dollar and enter without any signs or symbols.
C2. Disease preside your plant's 2021, souther assignment symonditure as a new outers of green soles.
62. Please provide your plant's 2021 capital equipment expenditure as a percentage of gross sales . Round to the nearest whole number and enter without a % sign.
Formula = [(2021 cap equip exp / 2021 gross sales) * 100]
Example: If your capital equipment expenditure was \$500 and your gross sales were \$5000, you would enter
10.
63. Please provide your plant's 2021 overall profit margin percentage , defined as your plant's <u>net income</u>
(after tax) relative to gross sales, rounded to the nearest whole number. Include a minus sign if your number is
negative.
Formula = [(2021 net income / 2021 gross sales) * 100]
Example: If your 2021 net income was negative \$300 and your gross sales were \$5000, you would enter -6.
64. Please provide your plant's 2021 ROA , defined as your plant's <u>net income (after tax) relative to total</u>
assets, rounded to the nearest whole number. Include a minus sign if your number is negative.
Formula = [(2021 net income / 2021 total assets) * 100]
Example: If your 2021 net income was negative \$300 and your total assets were \$5000, you would enter -6.



Business Strategy & Performance	
65. On average, did your machine-hour rates increase, stay about the same, or decrease in 2020?	າ 2021 compared to
Increased	
Stayed about the same	
Decreased	
66. Did your facility manufacture any proprietary products for direct resale in 2021?	
Yes	
○ No	



67. What <u>percentage</u> of your facility's 2021 revenue came from proprietary products ? Please enter a whole number only; no decimals, commas, or other symbols.
68. How many active customers did your facility have in 2021?
Please enter a whole number only; no decimals, commas, or other symbols.
69. What was your customer retention rate for 2021? This is the number of customers in 2021 who were
also customers in 2020, as a percentage of your 2020 total customer base. Enter your number without a %
sign.
Example: If you had 50 customers in 2021 who were also customers in 2020, and a total of 60 customers in
2020, your customer retention rate would be 83%, and you would enter 83. You may enter decimals but no
other signs or symbols.
70. What percentage of new business quoted in 2021 was actually booked ? Enter your number without a
% sign.
Example: if you quoted 80 new jobs in 2021 and booked 40, you would enter 50. You may enter decimals but
no other signs or symbols.



Submoss strategy at enormanies	
71. About how many quotes for new parts did your facility deliver in one month, on average, during 2021? Please enter a whole number only; no decimals, commas, or other symbols.	
72. About how long from the time a request was received in 2021 did it typically take your facility to del quote for new parts?	iver a
12 hours or less	
24 hours	
48 hours	
72 hours	
More than 72 hours	
Not sure	
73. About what percentage of quotes for new parts did your facility win in 2021? Please enter a whole number only; no decimals, commas, or other symbols.	
74. As best as you can say, was the pricing your facility quoted typically higher or lower than the pricing competition quoted for the same new parts in 2021?	
Higher	
Lower	
Oon't know	
75. Did your facility utilize process simulation software when considering new jobs in 2021?	
Yes	
○ No	



•
76. By about how much was your facility's pricing for new parts different than the competition's in 2021?
less than 5%
5% - 10%
11% - 15%
<u>16% - 20%</u>
more than 20%
On't know
77. Which type(s) of simulation software did your facility deploy in 2021? Select all that apply
Moldflow simulation
Materials simulation
Process simulation
Not sure
78. Which tools/formats did your facility typically use for estimating new parts in 2021?
Paper
Excel
Job Quoting Software
ERP System
Other (please specify)
Don't know

79. During 2021, was your facility part of any online sourcing services that match buyers with qualified
suppliers? Examples include Xometry, Fictiv, Paperless Parts.
Yes
○ No
Not sure



80. Below are business practices that your sl have been in place at your shop in 2021.	hop may or may not apply. Please select all that you consider
Business metric goal setting	
Business strategy development	
Regularly scheduled management/department h	ead meetings
Regularly scheduled, formal review of the state of	of the business
Steering board/committee including outside men	nbership
Family business/succession planning	
Regular peer group participation	
None of these	ols does your facility use? Select ALL that apply.
None of these 81. Which of the following sales/marketing to	
None of these 81. Which of the following sales/marketing to Advertising - online	Industry awards/recognition
None of these 81. Which of the following sales/marketing to	
None of these B1. Which of the following sales/marketing to Advertising - online	Industry awards/recognition
None of these B1. Which of the following sales/marketing to Advertising - online Advertising - print (e.g. magazines)	Industry awards/recognition Online keyword advertising (e.g. Google)
None of these 81. Which of the following sales/marketing to Advertising - online Advertising - print (e.g. magazines) Blogs	Industry awards/recognition Online keyword advertising (e.g. Google) Online videos
None of these 81. Which of the following sales/marketing to Advertising - online Advertising - print (e.g. magazines) Blogs Brochures/catalogs	Industry awards/recognition Online keyword advertising (e.g. Google) Online videos Open house
None of these 81. Which of the following sales/marketing to Advertising - online Advertising - print (e.g. magazines) Blogs Brochures/catalogs Company website	Industry awards/recognition Online keyword advertising (e.g. Google) Online videos Open house Sales personnel
None of these 81. Which of the following sales/marketing to Advertising - online Advertising - print (e.g. magazines) Blogs Brochures/catalogs Company website Customer tours of your shop	Industry awards/recognition Online keyword advertising (e.g. Google) Online videos Open house Sales personnel Social media (Facebook, Twitter, YouTube, etc.)

82. Which social media outlets did your company use i	n 2021 to generate business? Select ALL that apply.
Twitter	Snapchat
LinkedIn	YouTube
Facebook	None of these
Instagram	



The final section of the survey pertains to employees, training, and safety.

83. Which human resource practices/programs did you	ur chan use in 20212. Salast ALL that apply
401(k) plan	Formal safety/health program
401(k) matching	Leader/supervisor development
Annual review and raise program	Paid medical benefits
Apprenticeship program	Paid holiday/vacation
Bonus plan	Profit- or revenue-sharing plan
Education reimbursements	Teaming/team-building practices
Employee ownership options (ESOP)	
Formal employee training programs	
Other (please specify)	
No HR programs in place	
84. Which statement best describes your plant as far a	s skills relative to needs in 2021? Select ONE only.
We experienced a shortage of skills needed and took action.	
We experienced a shortage of skills needed but did not take	action.
We did not experience a shortage of skills needed.	



Human Resources	
85. About what percentage of the training your facility of delivered by a third party ?	fered or supported <u>for certifications</u> in 2021 was
Please enter a whole number only; no decimals, comma 86. Which actions did your facility take in 2021 to add	as or other symbols. dress a shortage of skills your shop needs? Select ALL
that apply.	
Advertising (e.g. billboard, radio, TV)	Outreach program at local schools
Attendance incentives Cross training	Outreach program to broader populations (e.g. completed rehab; released from incarceration)
Flexible schedules	Provide, pay for, or subsidize transportation to/from facility
'Get paid to learn/train' program	Rewards for referrals
Increased automation	Signing incentives Temp agency/Temp-to-Perm hiring
Loosened hiring criteria	Weekend only shifts
Mentor program	
Other (please specify)	
87. Does your facility partner with any area schools fo	or things like open houses or staff recruitment?
No	



Human Resources					
Tullian Nesources					
88. Please select the rating that best describes your shop's practice in 2021 in each area listed below.					
	Did not have written guidelines	Had written guidelines, but they were not well known	Had written guidelines, and they were broadly known		
Hazardous material handling			\bigcirc		
Heavy equipment operation		\bigcirc			
Personal protective equipment usage		\bigcirc			
Safety training for new employees		\bigcirc	\bigcirc		
Safety training refreshers/updates for tenured employees	0	\circ	0		
Safety incident reporting	\bigcirc	\bigcirc	\bigcirc		
89. Which of the following de Safety manager Safety committee Neither of these	signated safety roles did yo	ur shop have in place in	2021?		



Please read the instructions at each question for the accepted format for responses. If you receive an error message and your format is correct, your value is likely an exception outside of the reasonable range, and won't be accepted.

90. How many total people did your facility employ in 2021 at the location(s) to which your answers apply? Please enter a whole number only; no decimals, commas or other symbols.
91. How many employees were directly involved in plant floor operations in 2021 at the location(s) to which your answers apply?
Please enter a whole number only; no decimals, commas or other symbols.
92. What is the average age of your facility's plant floor employees?
Please enter a whole number only; no decimals, commas or other symbols.
93. What is the average years of plastics processing/manufacturing experience of your facility's plant floor employees?
Please enter a whole number only; no decimals, commas or other symbols.



94. What was your plant's annual labor turnover rate of plant floor employees in 2021? This is the number of voluntary plus involuntary separations of plant floor employees as a percentage of the total usual number of plant floor staff. Enter your number between 0 and 100 without a % sign. You may enter a decimal, but no other signs or symbols. Example: If 6 plant floor employees left in 2021 and your usual plant floor staff totals 30, you would enter 20.
95. During 2021, did the size of your facility's full-time plant staff increase, decrease, or stay the same? Select ONE only.
Increased
Stayed the same
Decreased
96. What was the approximate average hourly wage rate in US dollars, without overtime, for non-management plant floor employees in 2021? You may enter a decimal, but no other signs or symbols.
97. On average, about how many hours of operations training did each hourly paid, non-management plant floor employee receive in 2021? Select ONE only.
Less than 8 hours
8-20 hours
21-40 hours
More than 40 hours



Almost finished!

This is the final page of the survey. Please double-check your responses for accuracy and completeness before you continue.

Before you click **Submit Responses**, you may close and return to the survey on this device to make changes as many times as you like until the deadline on April 30, 2022. Once you click **Submit Responses** on this page, you will be taken to the *Plastics Technology* website. Your survey will be locked and submitted and you will not be able to change any of your answers.