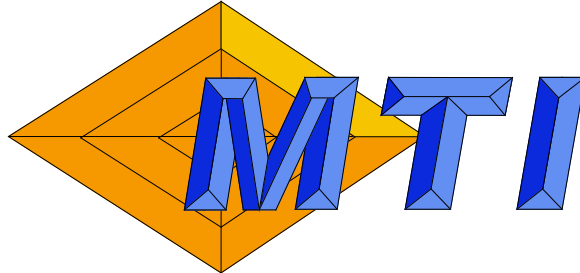




Instructions for Using This Electronic Form



METAL TREATING INSTITUTE

At any time, you may elect to print this document and handwrite your responses, and return by either fax or mail.

This form is designed to be **completed electronically**. To do so, you will need the newest form of Adobe Acrobat Reader software, version 9.0. A free copy is available for download from their website at <http://get.adobe.com/reader>

You can use your mouse or the tab key to move from one answer box to another. (To make the answer boxes visible, look for and click on the "Highlight Fields" button in the upper right hand corner of your screen.)

If you are using an earlier version of acrobat, please be aware of the following:

You may not have the ability to save your answers as part of the file. Alternatively, you may find that you are able to save your answers **ONLY ONCE** and that if you reopen the file, you are unable to make further changes.

We recommend printing a blank copy of this form as backup or go to www.performancebenchmarking.org to download another copy of this form.

To **submit** your data, you may:

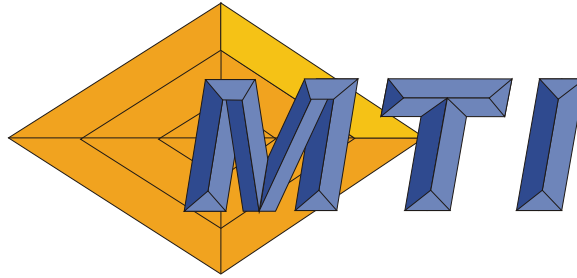
- Print a hard copy with your responses and fax or mail it to us.
- Save your answers as part of the file and submit by email (using the button in the upper right hand corner). This opens a link to your email service (either outlook or internet mail) in order to create an email message with your responses attached. You may have to then open your email account and manually click the send button.
- Save your answers and this file on your computer under another file name and attach it in a separate email to pbs@mmtc.org.

**P E R F O R M A N C E
B E N C H M A R K I N G**

For Benchmarking Use Only
Site ID _____

Svkey _____

Heat Treating Services
(Questionnaire valid through 4/15/12)



METAL TREATING INSTITUTE

- Please try to report all of your data for the same 12-month period, preferably calendar 2010.

This form is for shops that provide heat treating services for parts or products made by others. If you make products and do your own heat treating, please use this form only if you can provide data on your heat treat operations as a separate line of business, with separate financials and employees. Otherwise, please select one of our other industry questionnaires (see www.performancebenchmarking.org) and receive a report comparing you to other product makers.

- Please indicate currency units, if not U.S. Dollars: _____
- If you operate more than one plant, please try to provide data for each plant separately.

Contact Person

Contact Person: _____

Company Name: _____

(This is how it will appear on your report)

Address: _____

City or Town: _____

State or Province: _____

Country/Postal Code: _____

Phone: _____

Fax: _____

E-Mail: _____

Please return this questionnaire, and direct any questions to:

Performance Benchmarking Service

MMTC

47911 Halyard

Plymouth, MI 48170

(P) 888-414-6682

(F) 734-451-4202

E-mail pbs@mmtc.org

<http://www.performancebenchmarking.org>

Plant Location (If Different)

City or Town: _____

State or Province: _____

Country: _____

Please keep a copy of this questionnaire in the event we need to contact you for clarification. Thanks.

Developed in collaboration with the Metal Treating Institute (MTI)

Services & Markets: What services do you provide at this plant? Using what processes? For what types of customers?	1. (You <u>must</u> provide a written description here.)		
Please enter your industry code (whether U.S. SIC, NAICS, or other classification system), if you know it.	2. _____ <input type="checkbox"/> SIC <input type="checkbox"/> NAICS <input type="checkbox"/> Other _____		
Is this the only location of your company? [If no:] How many people work at your company, at all of its locations world-wide?	3. Only location? <input type="checkbox"/> Yes <input type="checkbox"/> No 4. [If no:] Total company employment (check one box): <input type="checkbox"/> 1-19 <input type="checkbox"/> 20-99 <input type="checkbox"/> 100-499 <input type="checkbox"/> 500+		
Consider your typical or most representative order or job during the past year. Roughly what was the per-unit price of the services you provided for this order? What about your lowest-unit-price order or job? What about your highest-unit-price order?	5. Typical/Average-Price \$ _____	6. Low-Price Pieces \$ _____	7. High-Price Pieces \$ _____
For a typical product or job, roughly how many units of a particular product do you process? For very long-term orders or products, please answer based on annual volumes.	8. (Check only one.) <input type="checkbox"/> One or very few <input type="checkbox"/> A dozen, or several dozen, or hundreds <input type="checkbox"/> Thousands or tens of thousands, or more <input type="checkbox"/> No such thing as "typical" – our volumes are unpredictable and can vary from a few to many thousands		
Which of the following do you consider to be your core business(es)?	9. Whole-part steel hardening (heat, quench, temper) <input type="checkbox"/> Yes <input type="checkbox"/> No 10. Whole-part steel annealing or normalizing <input type="checkbox"/> Yes <input type="checkbox"/> No 11. Non-ferrous heat treat <input type="checkbox"/> Yes <input type="checkbox"/> No 12. Partial-part heat treat (flame, induction, laser, etc.) <input type="checkbox"/> Yes <input type="checkbox"/> No 13. Diffusion treatment (e.g., carburizing, nitriding, etc.) <input type="checkbox"/> Yes <input type="checkbox"/> No 14. Brazing or sintering <input type="checkbox"/> Yes <input type="checkbox"/> No		
Which of the following cooling/quenching media do you use?	15. Water, brine, or oil <input type="checkbox"/> Yes <input type="checkbox"/> No 16. Air <input type="checkbox"/> Yes <input type="checkbox"/> No 17. Other gases <input type="checkbox"/> Yes <input type="checkbox"/> No 18. Polymer <input type="checkbox"/> Yes <input type="checkbox"/> No 19. Molten salts or metals <input type="checkbox"/> Yes <input type="checkbox"/> No		
In the past year, roughly what percent of your sales were from:	<ul style="list-style-type: none"> • Short-term, non-repeating orders (orders you see only once or sporadically) 20. _____ % • Long-term, repeating orders (regular, release-type work) 21. _____ % <p style="text-align: right;">Total (should sum to 100) _____ %</p>		
In the past year, roughly what percent of your sales were:	<ul style="list-style-type: none"> • Defense/military-related? 22. _____ % • Medical/healthcare-related? 23. _____ % 		
In the past year, roughly what percent of your sales were to customers in the following industries?	<ul style="list-style-type: none"> • Automotive 24. _____ % • Aircraft/Aerospace 25. _____ % • Computer, Communications, or Electronic Equipment 26. _____ % 		
In the past year, what percent of your sales were from:	<ul style="list-style-type: none"> • Services you didn't provide three years ago? 27. _____ % • Customers you didn't serve three years ago? 28. _____ % • Industries you didn't serve three years ago? 29. _____ % 		
In the past year, what percent of your sales were shipped to locations outside your home continent or trade area (e.g., North America/NAFTA, European Union, Asia/Pacific, etc.)?	30. _____ % sales exported beyond trade area		
Financial: What were your total sales at this location in the past year? How about 2 years earlier (i.e., calendar or FY2008)?	31. Most Recent Year (e.g., calendar 2010 or most recent fiscal year) \$ _____ 32. Two years earlier (2008)? \$ _____		
Receivables On average during the past year, what were your receivables – the amount that your customers owed you?	33. \$ _____ average receivables		
Labor Costs What was your total payroll in the past year? (Include payments for Social Security, Medicare, bonuses, and overtime. Exclude payments for health care, pension plans, and other fringe benefits. Also, exclude any payments made to people who are not your employees.) How much of payroll was for:	34. Hourly people who work on the shop floor? \$ _____ 35. All others who work in the shop or factory (e.g., foremen & supervisors) plus all lab/engineering staff? \$ _____ 36. Non-shop, non-lab/engineering employees? \$ _____ 37. Total Payroll (Q34+Q35+Q36) \$ _____		
What was the average wage rate, excluding overtime, for hourly shop workers (from Q34)? Please include all skill/seniority levels in this average.	38. Avg. hourly wage \$ _____ per hour		

What were your expenses for health care, pension plans, workers' comp, and other fringe benefits not included in payroll? How much of those expenses were for: • Factory employees (those working in the shop, plus lab/engineering)? • Non-factory employees?	39. \$ _____ shop/lab/engineering employees 40. \$ _____ non-factory employees																														
What did you spend for temporary personnel (i.e., people who are not your own employees) in the past year? How much of your spending was for: • Factory temps (working in the shop, or in lab/engineering)? • Non-factory temps?	41. \$ _____ shop/lab/engineering temps 42. \$ _____ non-factory temps																														
Purchases from Other Firms and Locations In the past year, how much did you spend on purchased shop supplies, material, and perishable tools/fixtures? (Do <u>not</u> include energy costs here.)	43. \$ _____ shop supplies, material, etc.																														
In the past year, how much did you spend on services that you paid others to provide? How much of this spending was for: • Manufacturing-related services (e.g., subcontracted processing, outside repair & maintenance, lab or engineering services, packaging, waste disposal, etc.)? Please include factory insurance and property taxes here. • Non-manufacturing-related services (e.g., accounting, payroll services, phone, postage, shipping, sales commissions to non-employees, etc.)?	44. \$ _____ manufacturing services 45. \$ _____ non-manufacturing services 46. \$ _____ total																														
Energy Costs In the past year, how much did you spend on energy, across all fuels (electricity, natural gas, fuel oil, etc)? Approximately what percent of that was for the factory (i.e., <i>not</i> for the office)?	47. \$ _____ energy costs 48. _____ % for factory																														
Plant & Equipment Costs In the past year, what were your expenses for depreciation, rent, and leases? Be sure to include: 1) depreciation & amortization of factory buildings & equipment you own; 2) factory rent; and 3) factory equipment lease payments.	49. \$ _____ depreciation, rent, and lease payments																														
Roughly what is the replacement value of all the equipment you use? Please include the value of equipment that you <u>lease</u> as well as what you <u>own</u> . By replacement value, we mean that if you have a 20-year-old piece of equipment, how much it would cost to replace it with a roughly identical 20-year-old piece of equipment. (Please do NOT include the value of your building or land, and do NOT report book value.)	50. \$ _____ equipment replacement value																														
Order Processing, Scheduling and Delivery: In the past year, what percent of your deliveries were made on time?	51. _____ % deliveries you made on time																														
How much did you spend in the past year on "premium freight" charges for which customers did not reimburse you?	52. \$ _____ premium freight																														
In the past year, to what extent did you "bump" work from your planned production schedules in order to get "rush" or "hot" jobs done on time? That is, roughly what percent of lots or jobs required bumping another previously-scheduled lot or job?	53. _____ % of lots/jobs that bumped scheduled jobs [If you do not schedule production, enter NA.]																														
What percent of your sales were accounted for by orders received over the internet?	54. _____ % of sales received over internet																														
Are your order entry and/or production scheduling system(s) integrated with EDI or the internet, so that orders can be processed and scheduled automatically, without human intervention?	55. <input type="checkbox"/> Yes <input type="checkbox"/> No																														
Quoting & Estimating: Which cost components do you calculate separately for each new job? Which costs do you sometimes calculate, but only for unusual jobs? Which costs do you roll into your hourly billing rates? Check NA for any costs to do not apply to your business, or for items that are bought and owned by your customers ("consigned").	<table border="1"> <thead> <tr> <th></th> <th>Calculated Separately for Each Job</th> <th>Calculated for Special Jobs</th> <th>Included in Usual Hourly Billing Rates</th> <th>NA</th> </tr> </thead> <tbody> <tr> <td>- direct material & supplies</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>- racks, fixtures, part holders, etc.</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>- engineering/lab labor</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>- factory indirect labor</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>- order processing costs</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </tbody> </table>		Calculated Separately for Each Job	Calculated for Special Jobs	Included in Usual Hourly Billing Rates	NA	- direct material & supplies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	- racks, fixtures, part holders, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	- engineering/lab labor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	- factory indirect labor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	- order processing costs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Human Resources: On average in the past year, how many individuals worked at this location at a given time? <u>Please include part-time and contract labor.</u> (If your employment counts changed significantly over the past year, please be careful to report average, not year-end counts.)	61. _____ average number of individuals working at this location																														

How many of these personnel (from Q61) were your own employees (for whom you issued a W2), i.e., not contract personnel?	62. _____ employees
During the past year, how many of your employees (from Q62) quit?	63. _____ employees quitting
How many were terminated for reasons <u>other than</u> lack of business?	64. _____ employees terminated
How many of your total personnel (from Q61) were hourly people who worked on the shop floor? How many of these shop floor workers (from Q65):	65. _____ hourly shop workers Number of these shop floor workers:
<ul style="list-style-type: none"> • Were represented by labor unions? • Were covered by company-subsidized health insurance, for which you paid at least \$3000 per worker? 	66. _____ in unions 67. _____ for whom you paid >=\$3000/yr in health premiums
On average in the past year, how many hours per week did these shop workers (from Q65) work?	68. _____ shop hours/week, per worker
In the past year, roughly what percent of your shop labor time was spent doing work manually or with hand tools? That is, what percent was spent doing manual or hand-tool assembly, packaging, finishing, or other light manufacturing work?	69. _____ % shop labor time doing manual or hand-tool work
In the past year, what percent of your personnel at this location (from Q61) used a computer or programmable machine controller at least once a week as part of their job?	70. _____ % using computer or programmable machine
Processing and Utilization: How large is your production area?	71. Production area _____ square feet
How many furnaces or heating systems do you have in regular use? Please describe their age and characteristics.	72. _____ regular-use, furnaces/heating systems Number of furnaces/heating systems that are: 73. _____ less than 5 years old 74. _____ 5+ years old, but upgraded 75. _____ 20+ years old and not upgraded 76. _____ configured for continuous processing (i.e., with automated movement of parts through the process) 77. _____ equipped with programmable control of key process parameters, such as temperature, pressure, humidity, etc. 78. _____ integrated with atmosphere generator
How many hours was your shop open for production last year? <i>Example:</i> Two 8-hr shifts per day * 5 days per week * 50 weeks = 4000. In the past year, how many total hours were your furnaces available for processing? By “available,” we mean that your intent was to be in production mode, and you had scheduled work shifts accordingly. The next 2 questions only refer to the same furnaces you included in Q72, above. <i>Example:</i> The plant has 4 furnaces. Three were scheduled for two 8-hr shifts per day, 5 days per week, 50 weeks per year. The last one was used one shift per day. Thus the total number of available furnace-hours were: [3 furnaces x 16 hours/day x 250 days/year] or 12,000 hours + [1 furnace x 8 hours/day x 250 days/year] or 2000 hours = Total of 14,000 furnace-hours	79. _____ hours shop open last year 80. _____ available furnace-hours
How many of those available hours (from Q80) were furnaces actually processing parts? Do not include any hours that the equipment was idle or waiting, such as changeover time, maintenance time, time spent resolving quality issues, etc.	81. _____ processing furnace-hours
Quality Assurance: In the past year, what was your scrap rate? By “scrap,” we mean work you rejected internally due to errors, not unavoidable material loss. If you can, please provide the dollar value of output scrapped (costs for wasted labor and machine time plus cost for ruined material). Otherwise, provide the proportion (% or PPM) of units or output scrapped. (Answer either Q82 and Q83, or just Q84)	Scrap Due to Errors (Do NOT Include Offal or Design Scrap): 82. \$ _____ cost of material ruined due to errors 83. \$ _____ total scrap cost (ruined material plus cost of wasted labor and machine time) OR 84. _____ units or output scrapped <input type="checkbox"/> % <input type="checkbox"/> PPM (Check % or PPM.)
In the past year, what percent of shop labor time was spent doing reprocessing or rework of output that was not done right the first time?	85. _____ % shop labor time spent doing reprocessing/rework
In the past year, what proportion (% or PPM) of the units you shipped were initially rejected for quality reasons or not-to-spec condition? [NOTE: Even if your customers accept or reject entire lots, enter % or parts per million bad if you know it.]	86. _____ units initially rejected <input type="checkbox"/> % <input type="checkbox"/> PPM (Check % or PPM.)