

Section 17: Technologies

185. Were any of the following technologies in use at your establishment anytime during 1998?

Census
use only

Yes

No

Don't
Know

a. Computer control of building-wide environment
(e.g., space-heating equipment, cooling equipment, lights)

14010 a.

1 **9** Yes

2 **9** No

3 **9** DK

b. Computer control of processes or major energy-using equipment
(e.g., boilers, furnaces, conveyors used in the manufacturing process)

14020 b.

1 **9** Yes

2 **9** No

3 **9** DK

c. Waste heat recovery

14030 c.

1 **9** Yes

2 **9** No

3 **9** DK

d. Adjustable-speed motors

14040 d.

1 **9** Yes

2 **9** No

3 **9** DK

186. Were any of the following technologies associated with cogeneration in use at your establishment anytime during 1998?

Yes

No

Don't
Know

a. Steam turbines supplied by either conventional or fluidized bed boilers

14042 a.

1 **9** Yes

2 **9** No

3 **9** DK

b. Conventional combustion turbines with heat recovery

14043 b.

1 **9** Yes

2 **9** No

3 **9** DK

c. Combined-cycle combustion turbines

14044 c.

1 **9** Yes

2 **9** No

3 **9** DK

d. Internal combustion engines with heat recovery

14045 d.

1 **9** Yes

2 **9** No

3 **9** DK

e. Steam turbines supplied by heat recovered from high-temperature processes

14046 e.

1 **9** Yes

2 **9** No

3 **9** DK

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Section 17: Technologies, cont.

187. This establishment's six-digit North American Industry Classification System (NAICS) code is included as part of the address mailing label on the front page of this questionnaire.

If the first three digits of your establishment's NAICS code are:

 "313" or "314" (textile mills & textile product mills), then go to question 191, page 45.

or "327" (nonmetallic mineral product manufacturing), then go to question 188 below.

If the first three digits or first four digits of your establishment's NAICS code are:

 "311" or "3121" (food and beverage industries), then go to question 190, page 44.

For all other NAICS codes, go to question 192, Section 18, page 46.

Questions 188 and 189: For Nonmetallic Mineral Product Manufacturing (NAICS Code 327) Only

188. Were any of the following technologies associated with glass-related and similar industries in use at your establishment anytime during 1998?

	Census use only	Yes	No	Don't Know
a. Oxygen-enriched combustion air	14230 a.	1 9 Yes	2 9 No	3 9 DK
b. Forehearth designed for independently applied heating and cooling operations and minimal energy use	14240 b.	1 9 Yes	2 9 No	3 9 DK
c. Forehearth designed to eliminate side-to-middle temperature gradients with improved temperature stability	14250 c.	1 9 Yes	2 9 No	3 9 DK
d. Batch preheaters	14260 d.	1 9 Yes	2 9 No	3 9 DK
e. Advanced glass refiner	14280 e.	1 9 Yes	2 9 No	3 9 DK
f. Oxy-fuel firing	14950 f.	1 9 Yes	2 9 No	3 9 DK

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Section 17: Technologies, cont.

Questions 188 and 189: For Nonmetallic Mineral Product Manufacturing (NAICS Code 327) Only, cont.

189. Were any of the following technologies associated with cement-related and similar industries in use at your establishment anytime during 1998?	Census use only	Yes	No	Don't Know
a. High-efficiency classifiers in closed-circuit grinding plants	14290 a.	<input type="checkbox"/> 1 9 Yes	<input type="checkbox"/> 2 9 No	<input type="checkbox"/> 3 9 DK
b. Improved grinding media and linings, wear-resistant materials such as high-chrome alloys, and classifying liners	14300 b.	<input type="checkbox"/> 1 9 Yes	<input type="checkbox"/> 2 9 No	<input type="checkbox"/> 3 9 DK
c. Waste heat drying	14310 c.	<input type="checkbox"/> 1 9 Yes	<input type="checkbox"/> 2 9 No	<input type="checkbox"/> 3 9 DK
d. Dry-suspension preheater kilns	14320 d.	<input type="checkbox"/> 1 9 Yes	<input type="checkbox"/> 2 9 No	<input type="checkbox"/> 3 9 DK
e. Dry-precalciner kilns	14330 e.	<input type="checkbox"/> 1 9 Yes	<input type="checkbox"/> 2 9 No	<input type="checkbox"/> 3 9 DK
f. Kiln combustion system improvements such as semi-direct/indirect coal firing, optimal oxygen levels and advanced burners matched to the kiln/cooler design flame control	14340 f.	<input type="checkbox"/> 1 9 Yes	<input type="checkbox"/> 2 9 No	<input type="checkbox"/> 3 9 DK
g. Controlled particle size cement	14350 g.	<input type="checkbox"/> 1 9 Yes	<input type="checkbox"/> 2 9 No	<input type="checkbox"/> 3 9 DK

Go to question 192, Section 18, page 46

Section 17: Technologies, cont.

Question 190: For Food and Beverage Industries (NAICS Codes 311 or 3121) Only

190. Were any of the following technologies associated with food and beverage industries in use at your establishment anytime during 1998?

	Census use only	Yes	No	Don't Know
a. Infrared heating	14050 a.	1 9 Yes	2 9 No	3 9 DK
b. Microwave drying	14060 b.	1 9 Yes	2 9 No	3 9 DK
c. Closed-cycle heat pump system used to recover heat	14070 c.	1 9 Yes	2 9 No	3 9 DK
d. Open-cycle heat pump system used to produce steam	14080 d.	1 9 Yes	2 9 No	3 9 DK
e. Gas-driven rotary engines and/or turbines	14090 e.	1 9 Yes	2 9 No	3 9 DK
f. Membrane separation	14100 f.	1 9 Yes	2 9 No	3 9 DK
g. Irradiation	14110 g.	1 9 Yes	2 9 No	3 9 DK
h. Freeze concentration	14120 h.	1 9 Yes	2 9 No	3 9 DK
i. Membrane hyperfiltration to separate water from food products	14122 i.	1 9 Yes	2 9 No	3 9 DK

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Question 191: For Textile Mills & Textile Product Mills (NAICS Codes 313 & 314) Only

	Census use only	Yes	No	Don't Know
191. Were any of the following technologies associated with textile mills and textile product mills in use at your establishment anytime during 1998?				
a. Open-end spinning	14130 a.	<input type="checkbox"/> 9 Yes	<input type="checkbox"/> 9 No	<input type="checkbox"/> 9 DK
b. Water-jet weaving	14140 b.	<input type="checkbox"/> 9 Yes	<input type="checkbox"/> 9 No	<input type="checkbox"/> 9 DK
c. Projectile weaving	14150 c.	<input type="checkbox"/> 9 Yes	<input type="checkbox"/> 9 No	<input type="checkbox"/> 9 DK
d. Wet-on-wet dyeing and finishing	14160 d.	<input type="checkbox"/> 9 Yes	<input type="checkbox"/> 9 No	<input type="checkbox"/> 9 DK
e. Indirect steam heating of dye	14170 e.	<input type="checkbox"/> 9 Yes	<input type="checkbox"/> 9 No	<input type="checkbox"/> 9 DK
f. Dye bath reuse	14180 f.	<input type="checkbox"/> 9 Yes	<input type="checkbox"/> 9 No	<input type="checkbox"/> 9 DK
g. Foam dyeing	14190 g.	<input type="checkbox"/> 9 Yes	<input type="checkbox"/> 9 No	<input type="checkbox"/> 9 DK
h. Foam printing	14200 h.	<input type="checkbox"/> 9 Yes	<input type="checkbox"/> 9 No	<input type="checkbox"/> 9 DK
i. Foam finishing	14210 i.	<input type="checkbox"/> 9 Yes	<input type="checkbox"/> 9 No	<input type="checkbox"/> 9 DK
j. Low-add-on finishing	14220 j.	<input type="checkbox"/> 9 Yes	<input type="checkbox"/> 9 No	<input type="checkbox"/> 9 DK
k. Electric infrared (EIR) yarn drying prior to the weaving process	14222 k.	<input type="checkbox"/> 9 Yes	<input type="checkbox"/> 9 No	<input type="checkbox"/> 9 DK

Go to question 192, Section 18, next page

Section 18: Establishment Size

192. How many buildings were on this establishment site as of December 31, 1998?

Census
use only
17010

Number of Buildings

Buildings include:

- 1) structures enclosed by walls extending from the foundation to the roof,
- 2) parking garages, even if not totally enclosed by walls and a roof, or
- 3) structures erected on pillars to elevate the first fully enclosed level.

17020

19 Don't Know

Excluded as buildings are:

- 1) structures (other than the exceptions noted above) that are not totally enclosed by walls and a roof,
- 2) mobile homes and trailers, even if they house manufacturing activity,
- 3) structures not ordinarily intended to be entered by humans, such as storage tanks, or
- 4) nonbuildings that consume energy (such as pumps and construction sites).

193. What was the approximate total enclosed square footage of the buildings located on this establishment site as of December 31, 1998?

13010

Total Square Feet

Include in this estimate all the area enclosed by the exterior walls of a building, such as indoor parking facilities, basements, hallways, lobbies, stairways, and elevator shafts.

13011

19 Don't Know

Section 19: Remarks

194. Please use this space for any explanations that may be essential in understanding your reported data. If additional space is needed, attach a separate sheet, including the 11-digit Census File Number (CFN) located on the mailing label on the front of this questionnaire.

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Section 20: Contact Information

195. Name of person to contact regarding this questionnaire *(Please print or type)* **Date**

196. Title of contact person above *(Please print or type)*

197. Telephone: **Area Code** **Number** - **Extension**

198. Address--Number and Street

199. **City** **State** **ZIP Code (9 digits)**

200. Internet or E-mail address, if available *(Please print or type)*

19010

Thank you for completing this questionnaire!

Please photocopy this questionnaire for your records.

**Return this questionnaire in the return envelope provided.
If the envelope has been misplaced, return the completed questionnaire to:**

**Bureau of the Census
1201 East 10th Street
Jeffersonville, IN 47132-0001**

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