



**COMPASS**  
INTERNATIONAL INC.



**2021**

**Global Construction  
Costs Yearbook**

**21<sup>ST</sup> EDITION**



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**Table 9**  
**INDUSTRIAL / CHEMICAL TYPE FACILITIES**

TYPE OF PLANT	LOW RANGE M.E. MULTIPLIER	MEDIAN M.E. MULTIPLIER	HIGH RANGE M.E. MULTIPLIER
Chemical - Liquids	3.75	5.00	6.25
Chemical - Liquids / Solids (Hybrid)	3.25	4.50	5.75
Chemical - Solids	2.50	3.75	5.25
Ethanol Facility (corn / sugar cane)	2.75	3.25	3.75
Pharmaceutical	1.75	2.50	4.50
Power	2.00	3.30	4.00
Steel	1.50	2.00	2.50

- *Low Range: Typically is an open structure, has a high level of carbon steel piping, an unsophisticated instrumentation / control system, open shop construction workforce and a normal construction schedule. Solids has a limited amount of piping, the major equipment is usually material handling - conveyors, crushers and grinders.*
- *Median Range: Typically is a combination of enclosed / open structure, has an assortment of carbon steel and stainless steel piping (60% C.S. and the balance S.S. or better), a reasonably sophisticated instrumentation / control system, open shop or a combination of union construction workforce and a normal construction schedule.*
- *High Range: Characteristically the major equipment is housed in an enclosed structure / building, has an assortment of carbon steel and a high content of stainless steel piping (30% C.S. and the balance 70% S.S. or better), has a state of the art instrumentation / control system – TDC 3000 or equal, open shop or a combination of union construction workforce and a fast track construction schedule, is a hazardous process, is based on new technology.*

**Table 10**  
**GENERAL BENCHMARKS**

REF	DESCRIPTION	RANGE	COST OF FACILITY	COST OF ACTIVITY
1	Off sites (OSBL)	5%-50% of Inside Battery Limits (ISBL)		
2	Fringes (vacations, holidays, sick days)	22%-30% of base wage rate		
3	Worker Compensation Insurance	10%-17.5% of base wage rate		
4	Inspections / QA-QC services	1.5% of TIC		
5	Front End Studies / Scoping study / BOD	0.5-2.5% of TIC of facility	\$1 - \$100 + million	
6	Builders all risk insurance (BAR)	0.15%-0.60%	\$1 - \$100 + million	
7	Contractors O/H (Supporting construction / field activities)	4.00%-15.00%		
	<b>COMMENTS:</b> The larger the TIC value of the project, the lower the % typically is.			

**Table 39**
**NORTHERN EUROPEAN (SWEDEN / NORWAY) & SOUTHERN EUROPEAN (ITALY / SPAIN)  
HYDROGEN FACILITIES: 2018 COST BASIS:**

SIZE	LOW COST PER MMSCFD IN MILLIONS OF EUROS	% OF TOTAL	HIGH COST PER MMSCFD IN MILLIONS OF EUROS	% OF TOTAL	REMARKS
Hydrogen Plant 25 mmscfd Northern Europe (Aver of Sweden & Norway)					Average of Swedish / Norway Facilities
Engineering	4.2	0.60%	5.2	10.70%	Average Eng Rate = Euro 100 to 145 per hr
Procurement	18.2	46.10%	21.8	44.90%	
Construction	15.2	38.50%	18.7	38.60%	Average Construction Rate = Euro 50 to 65 per hr (split 65% Direct & 35% In-Direct man-hours)
Construction Management	1.9	4.80%	2.8	5.80%	Average CM Rate = Euro 90 to 155 per hr
<b>TOTAL</b>	<b>39.5</b>	<b>100%</b>	<b>48.5</b>	<b>100%</b>	
Cost per mmscfd	1.58		1.94		
Hydrogen Plant 50 mmscfd Southern Europe					Average of Italy / Spanish Facilities
Engineering	8	10.50%	9.9	10.50%	Average Engineering Rate = Euro 100 to 145 per hr
Procurement	35.1	46.20%	42.9	45.60%	
Construction	29.1	38.30%	35.5	37.80%	Average Construction Rate = Euro 50 to 60 per hour (split 65% Direct & 35% In-Direct man-hours)
Construction Management	3.7	4.90%	5.7	6.10%	Average CM Rate = Euro 90 to 155 per hr
<b>TOTAL</b>	<b>75.9</b>	<b>100%</b>	<b>94</b>	<b>100%</b>	
Cost per mmscfd	1.52		1.88		
Hydrogen Plant 100 mmscfd Southern Europe (Aver of Italy & Spain)					
Engineering	15.7	10.60%	19.1	10.50%	Average Engineering Rate = Euro 90 to 135 per hr
Procurement	68.9	46.50%	83.6	46.00%	
Construction	56.5	38.10%	68.8	37.80%	Average Construction Rate = Euro 40 to 55 per hour (split 65% Direct & 35% In-Direct man-hours)
Construction Management	7.1	4.80%	10.4	5.70%	Average CM Rate = Euro 85 to 140 per hr
<b>TOTAL</b>	<b>148.2</b>	<b>100%</b>	<b>181.9</b>	<b>100%</b>	
Cost per mmscfd	1.48		1.82		

## Chile

### FACILITY COSTS

FACILITY TYPE / UNIT PRICES SANTIAGO	UNIT	\$ LOW	\$ HIGH
Office 5 Floors \$/M2	M2	1,237	1,560
Office 5 Floors \$/SF	SF	115	145
Warehouse / Logistics Center \$/M2	M2	463	688
Warehouse / Logistics Center \$/SF	SF	43	64
Excavate by hand in trench n/e 1.5 M	M3	5.00	7.00
M/C excavation in trench n/e 1.5 M	M3	6.50	9.50
3,500 PSI plain concrete	M3	100	100
Rebar	LB	0.60	0.70
Formwork	SF	0.88	1.20
All in cost for Reinforced Conc. 3,500 PSI	CY	235	370
All in cost for Reinforced Conc. 3,500 PSI	M3	305	480
1/2" thick plasterboard	SF	1.05	2.35
Structural Steel in columns / beams	LB	1.00	1.45
Structural Steel in columns / beams	TON	2,100	2,900

## Chile

### REMOTE SITE ALL-IN BILLING RATE

#	SKILL	A	B	C	D	E	F	G	H	I	J	K
1	Site Work	7.12	3.55	2.35	4.05	2.05	19.1175	9.75	7.15	36.02	4.50	40.52
2	Concrete	6.73	3.55	2.35	4.05	2.05	18.7275	9.75	7.15	35.63	4.45	40.08
3	Structural Steel	7.61	3.55	2.35	4.05	2.05	19.6115	9.75	7.15	36.51	4.56	41.08
4	Equipment Erection	7.57	3.55	2.35	4.05	2.05	19.5725	9.75	7.15	36.47	4.56	41.03
5	Pipe (ISBL / OSBL)	7.72	3.55	2.35	4.05	2.05	19.7155	9.75	7.15	36.62	4.58	41.19
6	Electrical / Instrumentation	7.77	3.55	2.35	4.05	2.05	19.7675	9.75	7.15	36.67	4.58	41.25
7	Insulation / Painting	6.93	3.55	2.35	4.05	2.05	18.929	9.75	7.15	35.83	4.48	40.31
8	Scaffolding	6.77	3.55	2.35	4.05	2.05	18.773	9.75	7.15	35.67	4.46	40.13

A = Hourly Rate / Basis of Take Home Pay

B = Social Cost / Insurance \$3.45 to \$4.45 (use \$3.55)

C = Small Tool / Consumables \$2.10 to \$2.85 use (\$2.35)

D = Camp Cost / Meals \$3.55 to \$4.55 (use \$4.05)

E = Transport / Buses / Field Logistics \$1.75 to \$2.65 (use \$2.05)

F = Direct Cost per Hour

G = Supervision \$2.05 + Site Establishment \$2.50 + In-direct Site Labor \$5.20 = \$9.75

H = Construction Equipment / Scaffolding \$7.15

I = Sub Total

J = Overhead & Profit 12.5%

K = Total Hourly Rate in US \$'s

struction work in France many times will use their own standard forms of contract modified to local conditions.

- Negotiated contracts:
- Reimbursable contract (cost plus):

Like all other developed countries, France has a comprehensive set of government procurement procedures that need to be adhered to. Government procurement procedures can usually be reviewed at France's embassies or can be obtained from the relevant government agency.

To undertake construction work, either private or public in France, an organization must be able to obtain and provide insurance coverage that includes the 10-year insurance liability program. The ability to obtain this insurance coverage in some ways acts as a prequalification for bidding on construction projects.

### ARCHITECTURAL/ENGINEERING DATA

The following table shows typical percentage fees related to architectural and engineering services on new building/facilities located in France. The percentages shown are appropriate for conceptual estimating assignments and should be used only as a guide. The values shown are appropriate for a building or facility with total installed cost of US\$10 - \$50 million.

FEE STRUCTURE	UNCOMPLICATED BLDG/FACILITY	COMPLICATED SOPHISTICATED BLDG/FACILITY
Architectural Fee	3.00%	7.00%
Structural eng. Fee	0.50%	1.50%
Mechanical/electrical Eng. Fee	1.50%	3.50%
Inspection services fee*	0.50%	1.50%
Construction economist*	0.35%	0.65%
Other specialist consultants	0.65%	0.85%
Total architectural/ engineering and other consulting fees, as a percentage of final cost of facility	6.50%	15.00%

### NOTE:

Contractor completion or finalization of detailed design is not included in above percentage, but is typically incorporated into bid price. \*A maitre d'oeuvre often performs these activities.

The above fee percentages are dependent upon building or facility type, scope of work, sophistication of specifications, durations of engineering effort, complexity of building control systems, market conditions, and HVAC requirements, quality of materials and building/facility equipment, and owner involvement with the design effort. It should be understood that French design and procedure methods typically have the architectural and the other engineering professionals completing the detailed engineering effort at what appears to be the 50% - 75% of the drawings are issued to contractors for lump-sum bids. It is usual practice for the successful bidder together with his or her selected trade contractors to finalize and complete the detailed engineering/ design effort.

The hourly rates that follow are "all in" job rates or selling rates for various construction professionals. The rates are appropriate for 2021. The hourly rates include employee salaries, workers compensation insurance, social security payments, health insurance premiums, unemployment insurance, vacation payments, overhead costs, office facilities, utilities, supervision, and profit. The rates shown are appropriate for the Paris area and apply to individuals with a minimum of 10 years experience. The rates do not include temporary living expenses or travel costs.

### • France: in Euros US\$ 0.88 / Euro July 15, 2020

French professional workers typically work 37.5 – 39 hours per week and receive 5 – 6 weeks paid vacation, they are also entitled to 9 – 11 public holidays, hours worked per year = 1,600 – 1,650.

SKILL	EURO LOW	EURO HIGH
Senior Project Manager (25 years experience)	140	190
Project Manager (10 years experience)	120	165
Mechanical Engineer (15 years experience)	110	138
Chemical Engineer (15 years experience)	110	138
C/S/A Engineer (ditto)	100	135
E&H Engineer (ditto)	125	150
Estimator / Q.S. (ditto)	85	115
Planner (5 years experience)	75	110
CAD Operator	55	70
Purchasing Agent (10 years experience)	65	100
Contracts Manager / S/C Administrator	95	125
Admin / Document Control	40	60
Construction Manager (20 years experience)	100	130
Architect (10 years experience)	110	140

### ENGINEERING PRODUCTIVITY DESIGN WORK:

The following figures show a range of productivity values: (1) Washington, DC (2) Houston Texas, and (3) Paris, France. The productivity factors are compared against a U.S. basis of 1.00 – Washington DC, engineering labor working on producing the necessary design deliverables for a midsize petro-chemical / manufacturing facility (say \$10 – \$50 million).

REF. #	LOCATION	PRODUCTIVITY VALUE
1	Washington, DC	1.00
2	Houston, TX	0.95
3	Paris, France	1.05

### CONSTRUCTION LABOR HOURLY RATES

The rates shown below are 2021 “all in” selling rates for skilled and unskilled construction workers. The rates indicated are the hourly billing rates that a contractor would charge an owner or end user for work carried out on either a time and material basis or the “all in” grossed up labor rates contained in his or her bid.

## Construction Labor

### “ALL IN” SELLING RATES FOR SKILLED AND UNSKILLED CONSTRUCTION WORKERS

CATEGORY	LOW	HIGH	AVERAGE
Workers compensation insurance / fringe benefits			
Federal /state unemployment			
FICA (social security / OAP)			
Vacation / Holidays			
BAR / Liability Insurance / general expenses			
<b>TOTAL (ADJUSTED)</b>	<b>85%</b>	<b>125%</b>	<b>90% - 110%</b>

## Construction Material Costs

### MID-SIZED COMMERCIAL OR INDUSTRIAL CONSTRUCTION PROJECT

#	BULK MATERIAL	QTY	SI UNIT	LOCAL COUNTRY UNIT COST IN US \$	TOTAL IN US \$	USA UNIT COST IN US \$ SI UNIT	TOTAL IN US \$
1	Blocks (Concrete 8" x 16" x 4")	5,000	Each	1.85	9,251	1.82	9,109
2	Bricks (Common ) 1,000	15	1000	617	9,256	475	7,119
3	Bricks (Facing ) 1,000	10	1000	708	7,076	653	6,528
4	Cement in bags	150	Ton(M)	289	43,293	294	44,046
5	Conduit 2" / 50 mm rigid galv steel	1,000	M	23.21	23,211	24.00	24,002
6	Instruments 4 # 2" / 4" CV (8 #), 12 # (F/P/T) Devices	20	Each	5,048	100,954	4,704	94,077
7	Copper pipe 0.50" / 12 mm L	1,000	M	6.57	6,572	7.18	7,180
8	R M Concrete 3500 PSI / 25 MPa	350	M3	161	56,214	160	56,020
9	Sand / Stone 1.5" diameter / Imported fill / Hardcore (Average)	2,500	Ton(M)	39.71	99,278	25.57	63,931
10	Stainless steel 304 pipe 1" / 25 mm	1,000	M	14.28	14,282	17.86	17,856
11	Steel pipe A-53 1" / 25 mm diameter	1,000	M	12.93	12,933	13.01	13,013
12	Steel Reinforcement (not installed)	50	Ton(M)	1,731	86,542	1,310	65,490
13	Structural Steel (Fabricated not installed)	50	Ton(M)	2,070	103,497	2,646	132,290
14	Valves (Ball) 4" diameter 150 #	25	Each	832	20,795	775	19,371
<b>TOTAL</b>					<b>593,154</b>		<b>560,035</b>
<i>NOTE: Metric Ton = 2,205 lb • Long Ton = 2,240 lb (L) • Short Ton = 2,000 lb (S) • Metric Tonne = 1,000 kg /2,205 lb</i>							

SKILL	EURO (LOW)	EURO (HIGH)
Carpenter	32.00	46.00
Mason	32.50	46.00
Pipefitter	33.50	48.00
Electrician	33.50	48.00
Unskilled Work	21.00	31.00

### CONSTRUCTION MATERIAL COSTS

The values indicated on the following page are a sampling of construction material costs applicable to a midsize commercial or industrial project. The data are from a number of projects in the Paris metropolitan area. The values include delivery to site. They exclude TVA or VAT tax and do not include any overhead or profit add-ons to the installing contractor. The values shown are approximate and should be utilized on that basis. Premiums of 10-20% should be added to the prices indicated for small quantities. Similar discounts can be had for sizable quantities. Costs are valid for year 2021.

French bulk materials on average are 2% - 4% more expensive than their US equivalent. Engineered bulk items such as motor controlled valves, instrumentation devices etc; tend to be 4% - 6% more expensive in France than in the USA as of January 2021.

### APPROXIMATE COSTS OF BUILDINGS / FACILITIES

The cost values shown on the next page include all material, labor, construction equipment, overhead, and profit. The values exclude land purchase; value added tax, parking areas, extensive landscaping, design fees, owner-provided equipment, furniture, and fixtures. The values were obtained by dividing the cost of the completed facility by the gross square meters of the buildings and facilities. They are approximate and should only be used for budget

or conceptual estimates. The high values should be used for projects located in downtown areas of major cities and for projects that utilize high-quality specifications, materials, and installation methods. The values have been adjusted to reflect 2021 pricing levels and are based on projects in the Paris area.

- **French SF / M2 Facility Unit Costs in US \$'s** (indicated in chart below)

### LOCATION FACTOR

The factors shown below are used to quantify the cost differences for specific construction methods in different locations. Use of the factors involves either (1) estimating the proposed project on a U.S. basis (2) knowing the cost of a particular U.S. facility (often a Gulf Coast project is the model). The U.S. estimate is expressed as a base index of 1.00. Location factors typically reflect disparities in con-

## Costs of Building Facilities

### FRENCH SF / M2 FACILITY UNIT COSTS IN US \$'S

#	TYPE OF FACILITY	SF / LOW	SF/ HIGH	M2 / LOW	M2 / HIGH
1	Airport Terminal 2 – 3 Floors 400,000 - 700,000 SF	164	279	1,760	3,007
2	Apartments (Class B/C) 3 – 6 floors not public housing	175	327	1,879	3,522
3	Apartment public housing 3 – 6 floors	131	194	1,408	2,082
4	Food Production / Dairy Facility 70,000 SF	126	197	1,359	2,116
5	Hotel 3-6 floors 100,000 SF-2 - 3 star - suburban location*	191	309	2,055	3,330
6	Manufacturing / Facility / Factory 2 Floors 75,000 SF	75	150	809	1,613
7	Office 3 Floors 45,000 SF suburban location*	180	283	1,937	3,041
8	R & D Facility (College – Basic Research) 2 Floors 65,000 SF	186	296	1,998	3,181
9	W-House Refrigerated 80% / Admin 20% / 80,000 SF	90	173	972	1,865
10	W-House/ Logistics Center 80% / Admin 20% 40,000 SF **	73	117	789	1,258

\* 5 - 15 miles from city center

\*\* excludes racking / bar coding / warehouse equipment

facility (often a Gulf Coast project is the model). The U.S. estimate is expressed as a base index of 1.00. Location factors typically reflect disparities in construction materials, labor hourly rates, productivity differentials, equipment costs, importation of materials and capital equipment, and design costs. The purchase of land and inflation are excluded from the location factor. The following location factors are applicable for Indonesia:

- Chemical/process/manufacturing plant (utilizing some imported equipment): **0.92**
- Building/facility/civil project (utilizing local materials): **0.86**

For example, if a recently completed process project was built in the U.S. for US\$50,000,000, then the cost of a similar facility in Indonesia would be US\$50,000,000 X 0.92 = US\$46,000,000. A building, i.e. warehouse to be constructed in Indonesia estimated on a U.S. basis with an estimated cost of US\$10,000,000 would be budgeted at US\$8,600,000.

If the above project is for a “first of its kind” building / facility (first construction effort will initially experience a steep learning curve as it navigates through governmental / local issues) add 0.03 – 0.05 points to above location factors. If company

## Construction Material Costs

### MID-SIZED COMMERCIAL OR INDUSTRIAL CONSTRUCTION PROJECT

#	BULK MATERIAL	QTY	SI UNIT	LOCAL COUNTRY UNIT COST IN US \$	TOTAL IN US \$	USA UNIT COST IN US \$ SI UNIT	TOTAL IN US \$
1	Blocks (Concrete 8" x 16" x 4")	5,000	Each	0.75	3,726	1.82	9,109
2	Bricks (Common ) 1,000	15	1000	111	1,668	475	7,119
3	Bricks (Facing ) 1,000	10	1000	179	1,791	653	6,528
4	Cement in bags	150	Ton(M)	142	21,341	294	44,046
5	Conduit 2" / 50 mm rigid galv steel	1,000	M	19.71	19,709	24.00	24,002
6	Instruments 4 # 2" / 4" CV (8 #), 12 # (F/P/T) Devices	20	Each	5,640	112,803	4,704	94,077
7	Copper pipe 0.50" / 12 mm L	1,000	M	8.07	8,066	7.18	7,180
8	R M Concrete 3500 PSI / 25 MPa	350	M3	88	30,839	160.06	56,020
9	Sand / Stone 1.5" diameter / Imported fill / Hardcore (Average)	2,500	Ton(M)	20.03	50,074	25.57	63,931
10	Stainless steel 304 pipe 1" / 25 mm	1,000	M	22.96	22,963	17.86	17,856
11	Steel pipe A-53 1" / 25 mm diameter	1,000	M	15.40	15,403	13.01	13,013
12	Steel Reinforcement (not installed)	50	Ton(M)	878	43,885	1,310	65,490
13	Structural Steel (Fabricated not installed)	50	Ton(M)	1299	64,952	2,646	132,290
14	Valves (Ball) 4" diameter 150 #	25	Each	885	22,127	775	19,371
<b>TOTAL</b>					<b>419,346</b>		<b>560,035</b>
<b>NOTE: Metric Ton = 2,205 lb • Long Ton = 2,240 lb (L) • Short Ton = 2,000 lb (S) • Metric Tonne = 1,000 kg /2,205 lb</b>							

## ARCHITECTURAL / ENGINEERING DATA

The previous table shows typical fees for architectural and engineering services on new buildings/facilities in Poland. The fees are based on construction projects valued at \$5 - 50 million and are expressed as a percentage of the final cost of the building or facility (excluding VAT). These fees can vary, depending on location, type and sophistication of building and market conditions.

The hourly rates below are “all in” job rates or selling rates for various construction professionals. They are appropriate for 2021. The rates include employees’ salaries, workers’ compensation insurance, social security payments, health insurance premiums, unemployment insurance, vacation and holiday payments, establishment charges, overhead mark-ups, and profit. The rates shown are for the Warsaw area and reflect individuals with a minimum

SKILL	US \$ LOW	US \$ HIGH
Senior Project Manager (25 years experience)	60	85
Project Manager (10 years experience)	45	70
Chemical Engineer (15 years experience)	38	67
C/S/A Engineer (ditto)	36	63
Mechanical Engineer (15 years experience)	37	63
E&I Engineer (ditto)	40	63
CAD Operator	19	30
Cost Engineer (5 years experience)	34	48
Senior Estimator (10 years experience)	35	54
Quantity Surveyor (10 years experience)	33	51
Planner (5 years experience)	28	45
Purchasing Agent (15 years experience)	30	44
S/C Manager (15 years experience)	33	45
Document Control / Secretary	14	22
Construction Manager (20 years experience)	35	50
Field Engineer	30	43
Safety Engineer	25	37
Construction Inspector	24	37
Architect (10 Years Experience)	44	65

of 10 years experience.

- **Poland: US\$ / Zloty 3.92 – July 15, 2020**

- Polish professional workers typically work 38.5 – 42.5 hours per week and receive 3 – 4 weeks paid vacation, in addition approximately 8 - 12 public holidays are observed, billable hours per year = 1,780 – 1,860 = 1,840 billable hours.

The following hourly rates reflect work in the commercial, industrial and energy construction sector.

## ENGINEERING PRODUCTIVITY DESIGN WORK

The following figures show a range of productivity values: (1) Washington, DC (2) Houston Texas, and (3) Warsaw, Poland. The productivity factors are compared against a U.S. basis of 1.00 – Washington DC, engineering labor working on producing the necessary design deliverables for a midsize petro-chemical / manufacturing facility (say \$10 – \$50 million).

REF. #	LOCATION	PRODUCTIVITY VALUE
1	Washington, DC	1.00
2	Houston, TX	0.95
3	Warsaw, Poland	1.15 – 1.35

## CONSTRUCTION LABOR HOURLY RATES

The table below lists “all in” hourly selling rates for skilled and unskilled construction workers. These are the billing rates that a contractor would charge an owner or end user for work that is either carried out on a time and material basis or included in the “all in” grossed-up labor rates contained in his or her bid. These rates include base wage, insurance, fringes, burdens, holidays, small tools, and training levies, plus all applicable overhead and profit. They have been adjusted to reflect 2021 and are appropriate for the Warsaw area.

- **Poland: US\$ / Zloty 3.92 – July 15, 2020**

- Polish construction workers typically work 38.5 - 42.5 hours per week and receive 2 -3 weeks paid vacation, in addition approximately 10 - 12 public holidays are observed, billable hours per year = 1,850 - 1,950 = An average of 1,900 billable hours.

**Holidays:**

- **New Year's Day:** January 1
- **Martin Luther King's Birthday:** January 17
- **Memorial Day:** Last Monday in May
- **Independence Day:** July 4
- **Labor Day:** First Monday in September
- **Columbus Day:** October 10
- **Veterans Day:** November 11
- **Thanksgiving Day:** Last Thursday in November

- **Christmas Day:** December 25

**Names/Addresses**

U.S. Department of Commerce  
14th and Constitution Ave., N.W.  
Washington, D.C. 20230  
Telephone: (202) 482-2000

American Institute of Architects (AIA)  
1735 New York Ave., N.W.  
Washington, D.C. 20006  
Telephone: (202) 627-7300  
Fax: (202) 626-7587

American Association of Cost Engineers  
(AACE) International  
1265 Suncrest Towne Center Drive  
Morgantown, WV 26505-1876  
Telephone: (800) 858-COST

American Consulting Engineers Council (ACEC)  
1015 15th Street, N.W.  
Washington, D.C. 20005  
Telephone: (202) 347-7474  
Fax: (202) 898-0068

American National Standards Institute (ANSI)  
1430 Broadway  
New York, NY 10018  
Telephone: (212) 642-4900  
Fax: (212) 302-1286

American Society of Civil Engineers (ASCE)  
345 East 47th Street  
New York, NY 10017  
Telephone: (212) 705-7496  
Fax: (212) 421-1826

American Society of Mechanical Engineers (ASME)  
345 East 47th Street  
New York, NY 10017  
Telephone: (212) 705-7722  
Fax: (212) 705-7739

American Society for Testing and Materials  
(ASTM)  
1916 Race St.  
Philadelphia, PA 19103  
Telephone: (215) 299-5400  
Fax: (215) 977-9679