

**HEXCEL CORPORATION 1997 ANNUAL REPORT**

# 1997

**1997 was a year of significant achievement for Hexcel Corporation. The company enters 1998, its 50th anniversary year, stronger and more vigorous than ever.**

**Hexcel is the global leader in the advanced structural materials industry. With its unique vertical integration, Hexcel manufactures lightweight, high performance carbon fibers, reinforcement fabrics, composite materials and engineered parts and structures.**

**Hexcel materials are used in many thousands of applications—everything from commercial and military aircraft to space launch vehicles and satellites, high speed trains and ferries, cars and trucks, sports equipment, decorative window coverings and printed circuit boards.**

## Financial Highlights

(In millions, except per share data)	Year Ended December 31		
	1997	1996	1995
<b>Sales</b>	<b>\$936.9</b>	\$695.3	\$350.2
<b>Gross margin %</b>	<b>23.8%</b>	20.3%	19.2%
<b>Adjusted EBITDA <sup>(a)</sup></b>	<b>\$137.6</b>	\$ 71.9	\$ 29.4
<b>Adjusted operating income % <sup>(b)</sup></b>	<b>10.9%</b>	6.5%	5.1%
<b>Income (loss) from continuing operations</b>	<b>\$ 73.6</b>	\$ (19.2)	\$ 3.2
<b>Diluted earnings (loss) per share from continuing operations</b>	<b>\$ 1.74</b>	\$ (0.58)	\$ 0.20
<b>Pro forma diluted earnings per share <sup>(c)</sup></b>	<b>\$ 1.17</b>	\$ 0.48	\$ 0.38

<sup>(a)</sup> Earnings before business acquisition and consolidation expenses, other income, interest, bankruptcy reorganization expenses, taxes, depreciation and amortization.

<sup>(b)</sup> Excludes business acquisition and consolidation expenses.

<sup>(c)</sup> Excludes business acquisition and consolidation expenses and bankruptcy reorganization expenses, and assumes a U.S. effective tax provision of 36% on pro forma basis.

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# Hexcel Mission

**Combining people, materials and science  
to deliver superior performance.**



**1946**

Two young Navy engineers — Roger C. Steele and Roscoe T. "Bud" Hughes — with more enthusiasm than experience, start up a company they call California Reinforced Plastics in Hughes' cramped basement workshop in Lafayette, California with \$519.

## Operating Principles

### Customer Satisfaction

Customer Satisfaction is our highest priority. We will provide the highest quality materials and services to make our customers' products stronger, lighter, better.

### Continuous Improvement

We will always strive to improve and we will pursue continuous improvements in all of our activities through measured performance in a fact-based culture.

### Simplicity and Speed

In all that we do, we seek to simplify the task by identifying what is essential and then to implement with efficiency and speed.

### Employee Commitment and Pride

The *strength within* Hexcel is its employees. Our success depends on hiring, developing and retaining employees who are knowledgeable, committed to teamwork and proud of what they do. We will provide them with an open, creative and safe workplace, communicating to them frequently and honestly.

### Honoring Commitments

We will live up to the commitments we make to our customers, employees, suppliers, shareholders and the communities in which we do business.

### One Hexcel

Hexcel is one united company *working together* in a common mission, creating value through the application of these principles.

# Hexcel Corporation: 50

## 1946-1948 THE EARLY YEARS...

**1946** While Hughes finances the fledgling company by working as an engineer for the University of California, Steele devotes his full-time energies to investigating the many new plastics and other technologies developed during the war, trying to identify those with the best business prospects.

**1947** For almost two years, the Hughes' basement serves as Steele's office, workshop laboratory and bedroom as he designs and builds machines out of spare parts to fabricate his discovery, expanded honeycomb.



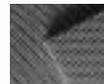
**1947** In Europe, meanwhile, C&LC, a multinational group of chemical companies, acquires Aero Research Limited, a company founded in 1934 by Cambridge don, Dr. Norman de Bruyne. The acquisition marries C&LC's strength in epoxy resins with Aero Research's pioneering work in aircraft adhesives and impregnated fabrics. This business later becomes Ciba Composites.



**1948** Chemist Ken Holland and economist Paul Ammen join Hughes and Steele to take over resin R&D and financial administration respectively. In July, the company relocates to a corrugated tin shed in Berkeley, taking the Hughes' dining room set with them.



**1948** After Roger Steele impresses attendees at a government plastics conference with his home-made fiberglass honeycomb, California Reinforced Plastics is awarded its first contract by the Air Material Command at Wright-Patterson Air Force Base, for research and development of materials, methods and equipment for making honeycomb for radomes on military aircraft.



## 1948-1958 THE FIRST DECADE...

World War II has established the United States as a world leader in manufacturing military aircraft, and the industry's momentum only intensifies after the war. Moreover, as aircraft become safer, faster and more comfortable, the commercial airline industry expands. With its superior abilities to develop and manufacture honeycomb, a small start-up called California Reinforced Plastics Company plays an important role in the burgeoning aircraft industry.



**1948** In September, the company incorporates, marking the official beginning of what is later known as Hexcel Corporation.



**1949** California Reinforced Plastics takes a big gamble and submits an intentionally low bid to furnish fuel cell support panels for the wings of the B-36 bomber. The gamble pays off.

**1952** Roger Steele is invited to speak at an important Air Force Conference on Adhesives and Sandwich Construction. "I took some really deep breaths and told those government, Air Force and industry people that they could look forward to a whole new era in aviation if they only would open their minds to the usefulness of this honeycomb work," Steele later recalls.



**1954** California Reinforced Plastics changes its name to Hexcel Products, Inc.

**1955** Pierre Genin & Cie, a Lyon-based silkweaver founded in 1933, is becoming one of Europe's leading weavers and prepreggers of glass fabrics. Genin fabrics are used in the US for electrical insulation on the Nautilus submarine, the first nuclear-powered submarine to go under the North Pole.



**1956** In the early hours of November 12, one of the ovens in Hexcel's Berkeley plant explodes, igniting the whole building. Employees labor day and night to restore limited operations within 14 days.



**1958** Harold Heath, a journeyman machinist trained at Boeing, acquires Tecna Plastics and combines it with his modest machine shop in Renton, Washington. Heath Tecna Plastics is launched with an \$800,000 order for insulation batts for the Boeing 707.

## 1958-1968 THE SECOND DECADE...

Hexcel's financial fortunes during much of its second decade are tied to the military market. The company feels the effects of a national recession in the late 1950s but benefits from higher defense spending in the 1960s as a result of the war in Vietnam. Meanwhile, the Boeing 707 ushers in a period of rapid expansion in the commercial aircraft market. This, too, is the exhilarating era of America's space program.

**1961** The slump in sales prompted by military cutbacks prompts an internal reevaluation, and William S. Powell, a partner at Booz-Allen & Hamilton, is elected president. Powell exits unprofitable business lines and from 1962 through 1967 the company achieves some of its best profit-to-sales ratios to date.



**1962** Strapped in the Friendship VII capsule, Astronaut John Glenn, Jr. returns to earth safely protected from extreme re-entry heat and possible impact injury by materials manufactured by Hexcel.

**1964** Donald Campbell's revolutionary Bluebird car, incorporating honeycomb cored panels supplied from Ciba in Duxford, England, breaks the world speed record.



**1965** Chemicals manufacturer Hercules Inc., is gaining experience in the composites business, convincing major military customers to utilize these new lightweight, high-strength materials in important defense programs.



**1965** As US involvement in Vietnam heats up, so do Hexcel's

military sales. Perhaps the biggest boost to sales are the temporary airfield landing mats, which use Hexcel's aluminum honeycomb core. In only two years—from mid-1966 to mid-1968, Hexcel produces more aluminum honeycomb than in its previous 20 years combined.

**1965** In 1965, work begins on a new facility in Casa Grande,



Arizona.

**1967** Hexcel gets an early taste of globalization as it opens its first overseas plant in Welkenraedt, Belgium with a Flemish supervisor, German management team and Walloon workforce.

**1968** To mitigate dependence on military sales, Hexcel purchases one of its principal suppliers, Coast Manufacturing, and its three manufacturing plants in Livermore, California; Seguin, Texas; and Lancaster, Ohio.

**1968** Danutec is formed by the Austrian Chemie Linz Group. This pilot plant grows to become one of the leading suppliers of laminates and prepregs for the ski and tennis



## 1968-1978 THE THIRD DECADE...

In 1968, nearly all of Hexcel's sales come from one product—honeycomb industry—military aerospace. By diversification program has resulted in a split between honeycomb and composites, reinforcement fabrics, chemicals and resins used in a wide range of applications. From 1970 to 1980, the company experiences 11 successive years of sales and profit growth.



**1969** Harvie M. Merrill is named president and chief executive officer as Hexcel enters a three-year slump in sales attributable to military and commercial aerospace cutbacks. He moves quickly to staunch the losses by closing plants and reducing staff.



**1969** Before even Neil Armstrong, Hexcel materials make the first footprints on the moon. The footpads on the Apollo 11 lunar landing module are made of a crushable honeycomb foil made by Hexcel.

**1969** When Concord, the world's first supersonic aircraft, makes its maiden flight, it contains aluminum honeycomb and Redux 322 film adhesives from Ciba's Duxford plant.

**1971** Hexcel begins manufacturing skis, bringing together a number of the company's materials and technologies into a single finished product. The fast, lightweight, durable snow ski quickly becomes a status symbol on the slopes the world over.

**1972** years prior to JP Stevens' second manufacturing plant in Genin & Cie becomes Stevens Genin and shifts emerging composite companies printed

**1974** vines of at Cincinnati to build numeric ("NC") carving allows supplying contouring the speed F-15 fig

**1974** Composites part of Ciba-Geigy sells its panels, metalizing for the

**1975** begins vertical integration, acquiring together a number of the company's materials and technologies into a single finished product. Two years enters the Tower S company in the custom knee, hi joints.

Sales in Millions



# 50 Years of Strength

## 1968-1978 THE THIRD DECADE...

In 1968, nearly all of Hexcel's sales are derived from one product—honeycomb—sold to one industry—military aerospace. By 1978, Hexcel's diversification program has resulted in a 50/50 split between honeycomb and advanced composites, reinforcement fabrics and specialty chemicals and resins used in a variety of applications. From 1970 to 1980, the company posts 11 successive years of sales and earnings gains.

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**1972** Acquired four years previously by JP Stevens, the world's second largest textile manufacturer, Pierre Genin & Cie becomes Stevens-Genin and shifts its focus to emerging areas like composites and electronic components, such as printed circuit boards.



**1974** Hexcel convinces design engineers at Cincinnati Milacron to build the five-axis, numerically-controlled ("NC") honeycomb carving machine, which allows Hexcel to begin supplying complex, contoured parts such as the speed brakes on the F-15 fighter.



**1974** Ciba Composites, now part of the merged Ciba-Geigy organization, sells its Fibrelam® panels, the first non-metallic aircraft flooring material, to Boeing for the 747 aircraft.

**1975** Hexcel also begins vertically integrating with the acquisition of a raw materials supplier, a specialist in graphite weaving technology. Two years later, it enters the medical field with its acquisition of Tower Scientific, a company that specializes in the manufacture of custom implants for knee, hip and shoulder joints.

## 1978-1988 THE FOURTH DECADE...

In the early 1980s, Hexcel feels the effects of another depressed US commercial aircraft market but with less of a vengeance than it had in the early 1970s. Within a few years, the company begins to benefit from renewed growth in this market and continued strength in the military aerospace market. From 1984 through 1988, Hexcel records five consecutive years of record sales and earnings.

**1979** Ciba-Geigy acquires J. Brochier et Fils, a Lyon-based glass weaver founded in 1898.

**1980** As recession grips the economy, Hexcel focuses its operations around its core composites business, exiting such lines as skis and medical products. The company is listed on the New York Stock Exchange.

**1981** Hexcel acquires a 50 percent interest in Stevens-Genin to ease its access to European markets. Five years later, it acquires the other half, renaming the operation Hexcel-Genin.

**1981** Hexcel plays a vital part in the construction of the Columbia space shuttle, supplying materials for the nose cap, payload doors and wings.

**1984** Ciba-Geigy acquires a 50% interest in Danutec.

**1986** Hexcel plays a major role in the historic non-stop, round-the-world flight of the Voyager aircraft. While Hexcel's composite materials occupy

approximately 80% of the Voyager's structural volume, they account for only about 20% of its weight.

**1986** Hexcel undergoes an orderly transition as Harvie Merrill retires and designates operating officer, Robert L. Witt as his successor.



**1986** Hercules invests heavily in the composites business during this period, developing its own resin systems and its own domestic supply of carbon fiber precursor in Decatur, Alabama and investing in a relationship with CASA through a prepreg plant in Parla, Spain.

**1986** Hexcel begins building a brand new 160,000 square foot production facility in Chandler, Arizona to support the company's involvement in the B-2 bomber program, among others.

**1988** Ciba-Geigy purchases Heath Tecna's operations in



Kent, Washington.

## 1988-1998 THE FIFTH DECADE...

With the sudden warming of the Cold War and the military cutbacks that accompany it, Hexcel's fortunes decline rather abruptly. Its investments in anticipation of the B-2 bomber and other military contracts leave the company particularly exposed. A new management team restructures the company in the mid-1990s and then proceeds to consolidate the industry through several major acquisitions. Hexcel is now the global leader in advanced structural materials.

**1988** Just as the Chandler facility is due to open, the first delays are announced on the B-2 bomber build rates. Sales to the defense sector plummet by two thirds. Meanwhile, the commercial aerospace market becomes more brutally competitive.

**1993** Bob Witt resigns as CEO in July, and two of Hexcel's directors, John J. Lee and John L. Doyle take over as interim CEOs. After an attempt to restructure debt obligations fails, Hexcel voluntarily files for Chapter 11 bankruptcy protection. Lee stays on as CEO.

**1994** Over the course of the year, Hexcel sharply refocuses its operations by reducing headcount, selling or exiting non-core assets, closing plants and repositioning the company's product line. It also raises \$50 million in new equity financing.

**1995** In February, Hexcel emerges from Chapter 11 and begins consolidating the overcapitalized composites industry.



**1996** In February, Hexcel completes its acquisition of Ciba Composites, strengthening its European presence, particularly

its relationship with Airbus, and adding downstream capabilities in finished aircraft structures and interiors through Ciba subsidiary, Heath Tecna.

**1996** In June, Hexcel purchases the composites operation of Hercules, gaining key aerospace composite qualifications and technologies and further strengthening its position with the world's leading aircraft manufacturers. Hexcel also acquires Hercules' substantial carbon fiber capabilities, helping it integrate upstream.

**1997** Hexcel acquires Fiberite's satellite prepreg product line and a royalty-free license to Fiberite's proprietary prepreg technology.

**1998** The combination of Hexcel, Ciba Composites, and the Fiberite product lines gives Hexcel the most comprehensive array of technologies, qualifications, geographic mix and vertically integrated capabilities in the industry. This leaves the company well positioned for growth and diversifica-



Millions of Dollars



## TO OUR SHAREHOLDERS:

1997 was a year of significant achievement and progress for Hexcel.

Taken together, 1996 and 1997 surely represent two of the best back-to-back years in the company's history.

And now, as we move into 1998 and our 50th anniversary as a corporation, Hexcel is stronger and more vigorous than it has ever been.

That is not to say that our task is complete. While Hexcel has made great strides, no successful company can rest on last year's accomplishments. Thus, we face the challenges and opportunities of 1998 with enthusiasm and confidence.

Hexcel today is a billion-dollar enterprise, and the world leader in advanced structural materials. As a major producer of carbon fiber, the world's largest weaver of reinforcement fabrics and the global leader in composite materials, we are uniquely vertically integrated.

Hexcel is increasing its focus on the primary markets we serve. We are taking steps to develop new products and services that speak to the particular needs of our customers and enable us to expand the use of Hexcel materials into new applications.

Hexcel is well positioned to capitalize on the attractive marketplace opportunities before us over the longer term. Of course, these opportunities include preserving and expanding our traditional franchise in commercial aerospace. But increasingly, they also encompass extending our other growth platforms into a truly diversified advanced materials company.

### **1997: A Company on the Move**

In 1997 Hexcel began to demonstrate its potential with many significant accomplishments. Among them were:

■ **Top line growth placing our sales very close to \$1 billion.** We met the challenge of the continuing ramp-up in the commercial aerospace business. We now fully expect to surpass that \$1 billion milestone in our 50th anniversary year.

■ **Dramatic improvement in gross margins, operating margins and net income.** We are now confident that the medium term financial targets we announced in this letter last year will be achieved in 1998, one year ahead of schedule.

■ **Completion of our business consolidation program in the US.** We will complete the European segment of this program in 1998. We anticipate that the resulting savings will meet or exceed our original goals.

■ **Expansion of our carbon fiber capacity.** With this \$16 million expansion now virtually completed, Hexcel is among the first producers to bring additional capacity online in this rapidly growing market. Included are major enhancements to our Decatur, Alabama precursor facility and our Salt Lake City, Utah carbon fiber plant. Hexcel is uniquely positioned in this important market as the largest consumer of carbon fiber in the world and a major producer as well.

■ **Extension of our technology base.** Hexcel is a supplier of carbon fiber and honeycomb to rocket and space satellite programs. Our September 1997 acquisition of the space satellite prepreg product line of Fiberite, Inc. leverages those positions and casts Hexcel as a leader in this expanding market. Further, we acquired a royalty free, worldwide license to most of Fiberite's structural prepreg products.

■ **Strengthening of our capital base.** Both Moody's and Standard & Poor's upgraded Hexcel's credit ratings to Ba2/BB on our bank facility and B1/B+ on our subordinated convertible notes. We refinanced our global credit facility early in 1998 with a \$355 million five-year revolving credit facility provided by a syndicate of international banks. This provides a financial base for our working capital needs and support for our future growth.



John J. Lee  
CHAIRMAN,  
PRESIDENT AND  
CHIEF EXECUTIVE OFFICER

1997 was a year of significant achievement and progress for Hexcel. Taken together, 1996 and 1997 surely represent two of the **best back-to-back years** in the company's history.

■ **Early in 1998, the announcement of joint ventures with Boeing to manufacture composite parts for commercial aircraft in China and Malaysia.** These ventures will extend Hexcel's business in the Pacific Rim, an advanced materials market of great long term potential. And our expanded partnership with Boeing is a model for the type of strategic relationship we seek to develop with all of our major customers.

Probably the most visible expression of Hexcel's achievements in 1997 was also the most important one to our shareholders. From about \$11 at the end of 1995, the price of Hexcel common stock on the New York Stock Exchange rose to about \$16 by the end of 1996, a 45 percent increase. By year-end 1997, it had advanced an additional 56 percent, to about \$25. Since the low point of about \$2.25 in December 1993, Hexcel stock has increased ten-fold. This has enhanced the company's market capitalization by nearly \$1 billion in four years.

#### **1998 Opportunities and Challenges**

Now that the consolidation of our two 1996 acquisitions is nearing completion, Hexcel is focused on building sustained growth while continuing to improve our financial performance. This entails improving customer satisfaction, reducing overall manufacturing costs, raising productivity and diversifying our business base. To help us work towards those objectives as a focused, unified organization, we have adopted the new Hexcel Mission and Operating Principles, which are printed on the inside front cover of this report. We believe this formal, corporate-wide commitment to an overriding business philosophy is essential to our continued progress. We believe it will unite the company's worldwide operations in a common cause and establish a consistent global approach to strategy, execution, measurement and forward planning.

Hexcel's Operating Principles capture many of the attributes that mark a "world class" business. They will help us work to achieve our mission as a focused, unified organization. As an example, take our commitment to customer satisfaction. Success in any business depends on building longstanding value-gen-

erating relationships between the business and its customers. Hexcel today is examining each and every aspect of the critical interface with our customers and taking action to improve our performance as measured by our customers.

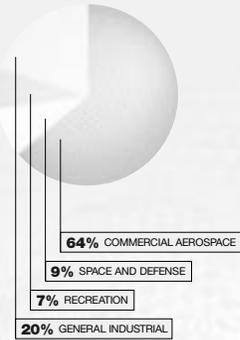
Perhaps the greatest commitment we have made to change is our commitment to be a "Lean Enterprise". Based on the observations of Womack & Jones in their book, *The Machine that Changed the World*, *Lean Thinking* builds on the experiences of many world-class organizations to show how businesses, through systematic identification and elimination of waste in their operations, can reduce the cost of operations and products, while improving product quality and customer responsiveness.

In 1997 we took the first steps to implement "Lean" at two of our US manufacturing plants, with dramatic results. In 1998 we will roll out this initiative to all of our US operations, and thereafter Europe. Lean is applicable not only to manufacturing plants, but to everything we do. The anticipated results of these initiatives are embodied in our new medium term financial goals, which are discussed later in this letter.

Historically, commercial aerospace has been Hexcel's primary focus and mission. Indeed, nearly two thirds of our 1997 sales came from this market. We expect that the current growth cycle in commercial aerospace will continue to make a positive contribution to our 1998 results. Even with the anticipated leveling off of Boeing's build rate in 1998, Boeing "Seven Series" and Airbus together still expect to build about 730 aircraft in 1998, easily surpassing the record of 603 aircraft, set in 1992. In addition, the unprecedented growth in regional and business aircraft is expected to continue. Clearly, commercial aerospace is a great business to be in just now.



#### 1997 SALES BY MARKET



Total Sales: \$936.9 Million

However, we must also carefully monitor the financial downturn in some Asian countries, given the possible cancellation or delay of some aircraft sales to Asian customers and the resulting impact on the build rates of Boeing and Airbus, our two largest customers. On the positive side, these concerns should moderate build rates as we move into 1999, thus extending the life of the current cycle and avoiding the sharp spike in demand seen in past cycles. But make no mistake: a continuing slide in Asian economies would represent a real danger to the commercial aerospace industry.

Despite this concern, over the longer term the Pacific Rim represents an enormous potential market for commercial aircraft.

Hexcel intends to maintain its leadership position in commercial aerospace, and actively increase the penetration of advanced structural materials in commercial aircraft. During 1997, for example, Airbus introduced a new application for composites in primary aircraft structure, with a keel beam made from Hexcel prepreg. Expanding the use of our materials in future generations of aircraft requires product innovation, reductions in cost and more efficient manufacturing processes. Our vertical integration is the leverage to satisfy these customer needs.

In military aerospace, we are on the brink of a new expansion. Both in the US and in Europe, new generations of military aircraft and helicopters are moving out of development into initial production, and will go into full production beginning in 2000. These aircraft—including the F-18 E/F, the F-22, the V-22 and the Eurofighter 2000—all use significantly greater quantities of advanced composite materials compared to their predecessors or to modern commercial aircraft. Most of these models are designed around Hexcel carbon fiber and use significant amounts of Hexcel prepreps and honeycomb. A key objective for us in 1998 is to prepare to

take full advantage of this increased activity, which should provide a valuable complement to our commercial aerospace business.

Space also offers expanded horizons for Hexcel. In launching satellites into space, the economics of weight and the need for materials that can withstand extreme temperature changes both create opportunities for the company. Our current focus is on building our portfolio of products, through innovation and acquisition, to serve our growing roster of launch vehicle and satellite customers. Hexcel should benefit as the cost of satellite-based communications systems becomes increasingly competitive with in-ground cable alternatives.

#### Beyond Commercial Aerospace

Despite the significant growth opportunities in aerospace, one of our major objectives is to increase the use of our materials in other applications. Today commercial aerospace accounts for nearly two thirds of our total sales. Within three years, we expect to see that percentage reduced below 50 percent.

The most attractive opportunities to achieve this goal appear to be in surface transportation (autos, trucks, trains, ferries and pleasure boats), electronics/telecommunications and civil engineering and construction.

We seek to achieve this goal through innovation and cost leadership with our existing products and technologies. Complementing these internal efforts are targeted acquisitions, ventures and alliances that will expand either our materials science capabilities or the applications we serve. We fully anticipate in time this effort will go full circle, delivering lower cost materials and processing technologies to fuel the expanded use of advanced structural materials in aerospace.



We expect to achieve most, if not all, of our medium term goals in 1998, **one year ahead of schedule**. This improvement has been driven by our business consolidation program, the growth in commercial aerospace sales and our investments in additional carbon fiber capacity.

#### Performance Goals—1997 and 1998

In my letter to you last year, I defined a set of medium term financial goals, to be achieved in 1999:

- Gross margin percentage equal to 25 percent of sales,
- Operating income equal to 13 percent of sales and
- Return on net assets equal to 20 percent.

Anyone who has been following Hexcel will not be surprised to hear that, absent any significant changes in our markets, we expect to achieve most, if not all, of these goals in 1998, one year ahead of schedule. This improvement has been driven by our business consolidation program, the growth in commercial aerospace sales and our investments in additional carbon fiber capacity.

Now we are raising the performance bar and defining new medium term goals, to be achieved by 2001:

- A doubling of total sales to at least \$2 billion,
- Double-digit annual sales growth, overall, from our existing businesses and
- Operating income equal to 15 percent of sales.

In working toward these goals, our primary financial measurement going forward will be return on net capital employed. We are committed to investing in projects and businesses that provide long term returns significantly higher than our cost of capital. That is how we expect to add economic value for our shareholders.

Achieving these goals will make Hexcel stronger than ever, and will change the company in many ways. For example, as a consequence of our continued sales growth and focused diversification of our business base, the percentage of our total revenues derived from businesses outside of commercial aerospace should increase to about half from about one third currently.

We have been anything but complacent in setting these new targets. They are clearly aggressive and ambitious. Indeed, achieving 15 percent operating income is perhaps the most challenging goal we have ever set for Hexcel. If we are to achieve our new goals, we must require and receive the very best efforts of Hexcel people throughout our worldwide operations. In practice, our actual performance will also depend on

market conditions and the precise timing of any major acquisitions or major capital investments, as well as the economic uncertainties noted earlier.

That being said, it must be emphasized that management is fully committed to the achievement of these goals. We are setting them for one reason and one reason alone: to continue to build shareholder value, and thereby further strengthen the economic partnership between the company and its shareholders. We have set these goals with the expectation that achieving them will result in higher earnings per share and a higher price for Hexcel common stock on the New York Stock Exchange.

#### In Conclusion

Just after year end 1997, Dr. Juergen Habermeier, former vice chairman of Hexcel, retired from the company. We greatly appreciate Dr. Habermeier's many contributions to the company's remarkable progress of recent years.

I wish to thank our customers, our employees, our board of directors and our shareholders for their support, dedication and patience. Without them, Hexcel's incredible growth over the past four years just would not have happened.

While much has been accomplished, more remains to be done. We are excited and enthusiastic about the future and confident that we can complete this task

 ise.

John J. Lee  
Chairman, President and  
Chief Executive Officer

April 20, 1998

## VERTICAL INTEGRATION

Hexcel's Unique Advantage

The foundation of Hexcel's leadership in the advanced structural materials industry is its unique vertical integration.

Hexcel today offers a breadth of products and services unmatched by any competitor. We are the only manufacturer whose capabilities extend over a broad spectrum of advanced structural materials—from carbon fiber precursor and carbon fiber, reinforcement fabrics, adhesives, honeycomb core and pre-impregnated materials ("prepregs"), all the way to finished, ready-to-install engineered components.

Hexcel's vertical integration means we can better control the cost, quality and delivery of our products, and combine materials to engineer the right solution for our customers' performance requirements. Moreover, Hexcel is well positioned to work with customers in developing new applications for advanced structural materials.

Advanced structural materials are strong and lightweight, they tolerate extremes in temperatures, they are highly resistant to corrosion and they help reduce the life-cycle costs of operating the aircraft. That is why they have become an essential material for the commercial aerospace, space and defense industries. And that is why today they are finding more and more applications in other transportation industries (rail, marine and automotive), and in recreation, electronics, civil engineering/construction and other industrial markets.

The diagram on the facing page illustrates Hexcel's unique vertical integration.

**Fibers:** We purchase acrylonitrile to produce our own feedstock of polyacrylonitrile (PAN) precursor, the key raw material used in making carbon fiber. Many composite materials begin with carbon fibers.

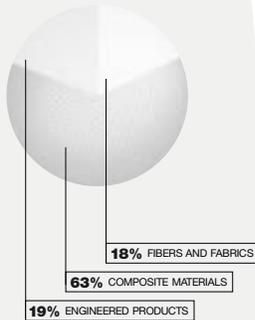
**Reinforcement Fabrics:** The carbon fibers are either made into unidirectional structural tape or woven or stitch-bonded to form reinforcement fabrics. Hexcel also produces other reinforcement fabrics from fibers we purchase, including fiberglass, aramid and other high-performance synthetic materials.

**Composites:** Composite materials include prepregs, structural adhesives, honeycomb, specially machined honeycomb parts and composite "sandwich" panels. Woven or unidirectional fabrics are impregnated with a formulated polymer resin to form prepregs. Structural adhesives in film form are manufactured from polymer resins and used to bond materials together. Honeycomb cores are manufactured from aluminum, Nomex®, fiberglass, carbon and other materials, and supplied directly to customers. These honeycomb cores can be sandwiched between metallic or prepreg skins to form lightweight and exceptionally strong honeycomb sandwich panels. Honeycomb and panels can also be shaped and tailored into any number of forms to meet customers' specifications.

**Engineered Products:** These composite materials are used to fabricate engineered components that go directly into finished products such as aircraft, autos and trucks.

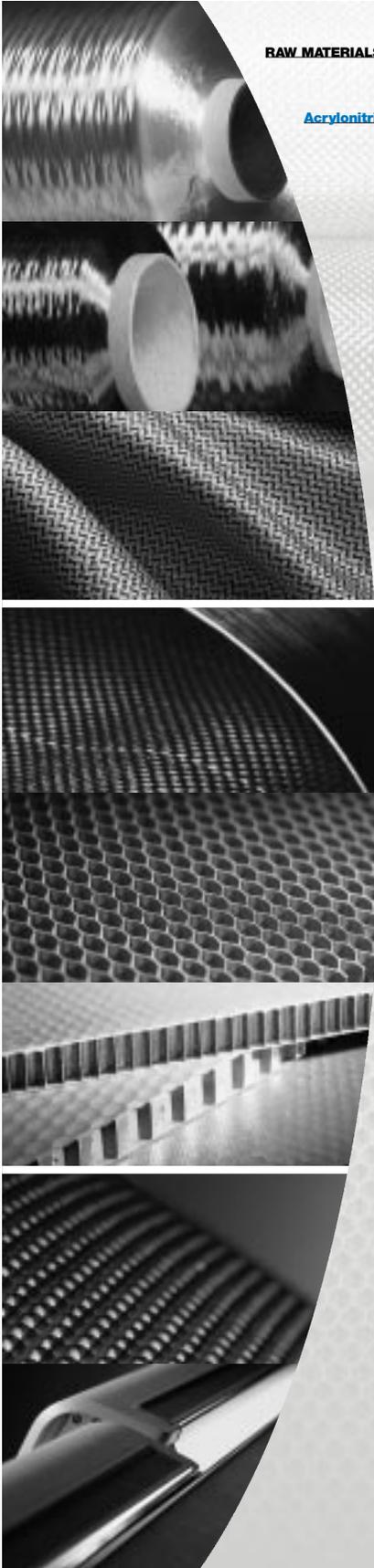
At each stage in the vertical integration process, Hexcel does two things: We sell our products to customers, and we move them downstream to our own business units. Hexcel today consumes internally about 50 percent of our production of fibers, and about 40 percent of

### 1997 SALES BY BUSINESS SECTOR



Total Sales: \$936.9 Million





**RAW MATERIALS      BUSINESS UNIT/PRODUCTS      MARKETS USE**

**FIBERS AND FABRICS**

Acrylonitrile

PAN Precursor

Carbon Fibers

Raw materials for preregs and fabrics, filament winding for various space, defense and industrial applications.

Fiberglass, Aramid

Reinforcement Fabrics

Woven Fiberglass, Carbon and Aramid; Reinforcements used for preregs, honeycomb, printed circuit boards, window blinds, insulation, soft body armor, filtration systems and civil engineering/construction repair/retrofit systems.

**COMPOSITE MATERIALS**

Resins

Preregs

Used for aircraft components, recreation applications (fishing rods, tennis rackets, golf clubs, skis and snowboards), munitions, and defense systems.

Aluminum, Nomex®

Honeycombs

Used for aircraft components, automotive components, high speed and mass transit trains, energy absorption, athletic shoes and many other components.

Sandwich Panels

Thin, high strength skins are bonded to lightweight honeycomb cores then cut into finished parts that are used in many applications ranging from aircraft flooring to interiors for ships and trains.

**ENGINEERED PRODUCTS**

Structures

Wing-to-body fairings, flap track fairings, radomes, engine cowls, inlet ducts, wing panels and other aircraft components, car and truck components.

Interiors

OEM and retrofit interior systems for aircraft such as: overhead stowage bins, lavatories, sidewalls and ceilings.

## COMMERCIAL AEROSPACE

Hexcel Markets

Hexcel is the world's leading supplier of a wide range of advanced structural materials to the commercial aerospace industry. Commercial aerospace is the company's largest market, accounting for nearly two-thirds of sales. And Hexcel materials are present on virtually every commercial aircraft built in the western world today.

When airline passengers board an aircraft, they are likely to enter a cocoon constructed largely of composite materials, including the ceilings, side walls, flooring, bulkheads and overhead storage bins.

### Expanding Use of Composites:

The use of composites in commercial aircraft continues to expand with each new generation of aircraft. Composites accounted for about five percent of the dry weight of the original model of the Boeing 737, for example. The new Boeing 777 and Airbus aircraft use even more composite materials, up to nearly 15 percent of the dry weight. The primary reasons for the continuing increase in the use of composite materials in commercial aircraft are that composites are strong and lightweight, they tolerate extremes in temperatures, they are highly resistant to corrosion and fatigue and they help reduce the life-cycle costs of operating the aircraft.

**Rapid Market Growth:** The commercial aerospace industry, which historically has been cyclical, has been growing very rapidly for the past two years. During this dramatic upsurge, new aircraft deliveries for Boeing's "Seven Series" and Airbus have ramped up strongly for Boeing and Airbus, increasing from 330 in 1995 to 503 in 1997. And the forecast is 730 for 1998. Combined Boeing

and Airbus backlog at December 31, 1997 was a record 2,608 aircraft.

Hexcel has capitalized on the recent dramatic increase in commercial aircraft build rates of the past two years. Our sales to the commercial aerospace industry have increased nearly 50 percent on a proforma basis in that time, and are expected to increase again in 1998.

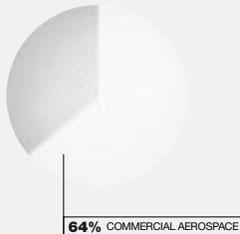
Hexcel is a leading supplier of fibers, fabrics, composite materials and parts to Boeing and Airbus, the industry's two largest competitors and Hexcel's two largest customers. Hexcel is well positioned with both Boeing and Airbus, as well as virtually every other commercial aircraft manufacturer in the western world, including builders of regional and business aircraft.

**Optimistic Outlook for 1998:** Commercial aircraft build rates will almost certainly reach record levels in 1998. However, the pace and duration of the current cycle in commercial aerospace are impossible to forecast with any precision. Uncertainty over the financial prospects of several, though not all, Pacific Rim nations has resulted in analysts' scaling back their forecasts of future aircraft orders. While these circumstances have not affected Hexcel to date, the company is carefully monitoring the potential threat of slowing demand for commercial aircraft. Nevertheless, industry production is set to remain more than double the lows of the mid-1990s and the airlines are reporting record profits.

Industry experts expect a leveling off in build rates to a pace which can be sustained for several years. This would increase the stability of the market, flatten the cycle somewhat and thereby create significant opportunities for Hexcel.



### 1997 COMMERCIAL AEROSPACE SALES VS. TOTAL SALES



Total 1997 Commercial Aerospace Sales: \$597.4 Million



Hexcel is the world's leading supplier of a wide range of advanced structural materials to the global commercial aerospace industry. Hexcel materials are present on virtually **every commercial aircraft** built in the western world today.



**Hexcel is a leading supplier of composite materials and parts to Boeing and Airbus, the industry's two largest competitors, and to virtually every other commercial aircraft manufacturer in the world. The company's sales to the commercial aerospace industry have increased nearly 50 percent on a pro forma basis in the past two years.**

## SPACE AND DEFENSE

Hexcel Markets

Hexcel was awarded its first materials contract 50 years ago, for research and development of materials, methods and equipment for making honeycomb for radomes on military aircraft.

Today space and defense collectively comprise the company's second largest market, encompassing not only military aircraft but also launch vehicles for spacecraft and satellites, and satellites themselves. Space and defense account for almost 10 percent of Hexcel's sales. And the market offers significant opportunities for rapid growth following the turn of the century.

In the US and Western Europe, Hexcel has a strong position as a supplier to most major military aircraft, launch vehicle and satellite programs. Hexcel's major customers in space and defense markets include Boeing, Lockheed, Primex, Northrop-Grumman, Alliant, Hughes, Loral, Sikorsky and Bell in the US, and British Aerospace, Aerospatiale, Arienne, CASA, Dassault, Eurofighter, Eurocopter and Saab in Europe.

**Military Aircraft Programs Set to Expand:** Hexcel supplies a wide range of fabrics, honeycomb, prepregs and other composite materials for military aircraft, just as it does for commercial aircraft. In addition, Hexcel carbon fibers are used exclusively on a wide range of US and European military aircraft, including fighter planes, transports, helicopters and other aircraft. Major programs using Hexcel materials include: US fighters such as the F-16, F-18 (C/D, E/F), F-22 and proposed Joint Service

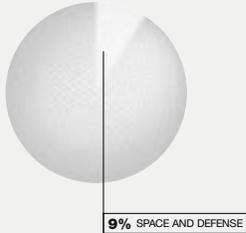
Fighter (JSF); transports such as the C-17; and helicopters such as the Comanche and the Apache. In Europe, Hexcel carbon fibers are used exclusively on the Eurofighter 2000.

Despite general declines in overall US defense spending, these military aircraft programs, all using Hexcel materials, have been in development for a number of years, and now are nearing the full-scale production stage. These programs should provide accelerating growth for Hexcel over the next few years, and provide a valuable complement to the company's commercial aerospace business.

**Satellites and Launch Vehicles Offer Significant Growth Prospects:** The market for new commercial satellites for a variety of applications is growing very rapidly, with estimates calling for over 1,000 new satellites to be launched in the next 10 years. Commercial satellites are increasingly being viewed as a cost-effective alternative to delivering voice, data and imaging signals, compared to in-ground cable. As the popularity of commercial satellites continues to rise, the number of launches also increases, creating new opportunities for Hexcel in this rapidly growing market.

Hexcel's September 1997 acquisition of the satellite materials business of Fiberite, Inc. significantly extends the company's position in this attractive market. From a base of honeycomb and fiber, Hexcel now has expanded into a range of specialty prepregs for this market.

1997 SPACE AND DEFENSE SALES VS. TOTAL SALES



Total 1997 Space and Defense Sales: \$88.3 Million



Military aircraft programs all using Hexcel materials, in development for a number of years, are now nearing **full-scale production**. They should benefit Hexcel's results over the next few years, providing a valuable complement to the company's commercial aerospace business.

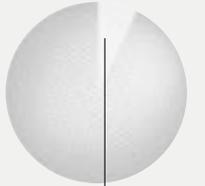


**Hexcel has a strong position as a supplier to most every major military aircraft programs in the US and Europe. In addition, the market for new commercial satellites for a variety of applications, and vehicles to launch them, is growing rapidly, creating additional opportunities for Hexcel.**

## RECREATION

### Hexcel Markets

1997 RECREATION  
SALES VS. TOTAL SALES



7% RECREATION

Total 1997 Recreation  
Sales: \$66.4 Million

Hexcel's participation in the recreation market began in the early 1970s, when the company marketed an innovative line of snow skis made with honeycomb. While Hexcel no longer markets skis under its own brand name, today the company supplies composite materials to many major ski manufacturers around the world. Hexcel has also branched out into many other segments of the sports and recreation market. This market currently represents about seven percent of the company's annual sales.

The sports and recreation market for composite materials encompasses a vast and growing range of high-performance sports equipment and other recreational items. Among the market segments in which Hexcel materials are represented:

- Hexcel is at the forefront of ski technology through innovative partnerships with major ski manufacturers, including Atomic, Elan, Head, Salomon and others.
- The company is participating in the current surge in sales of snowboards; over half of the snowboards made worldwide contain Hexcel materials.
- The popular Trek Y frame mountain bicycle uses Hexcel graphite unidirectional tape and prepreg to form its frame.
- Premium-priced fly-fishing rods are being made with Hexcel prepregs reinforced with intermediate-modulus and high-modulus Hexcel carbon fiber.

■ In the market for golf clubs, carbon and glass-carbon hybrids are rapidly replacing steel as the preferred material for drivers and irons due to their light weight, stiffness and strength.

■ In tennis racquets, Hexcel's graphite and fiberglass prepregs provide the stiffness and weight reduction needed in the market today.

■ And Reebok athletic shoes are made stronger and more comfortable through the use of Hexcel's thermoplastic honeycomb in the shoes' heel and ball and a Hexcel prepreg in the arch bridges.

In terms of specific materials, use of Hexcel prepregs and carbon fiber continues to grow in bicycles, fishing rods, footwear, golf clubs and snowboards. Hexcel honeycomb is focused on the footwear market.

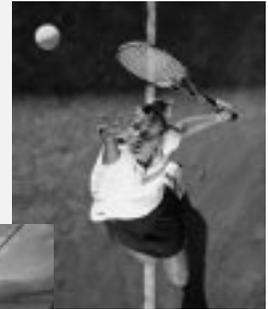
In Europe, Hexcel's participation in the recreation market is predominantly in skis, snowboards and other winter sports equipment. The company's European operations pioneered the use of composites in these markets and today maintain an important position in the market.

Other sports and recreation applications for Hexcel materials include wind surfing boards and masts, racquetball equipment, safety helmets and baseball bats.

This wide range of sports and recreation applications using Hexcel materials represents an attractive source of profitable business for the company.



Hexcel supplies composite materials to **many major ski manufacturers** in the world. And the company has also branched out into many other segments of the global sports and recreation market.

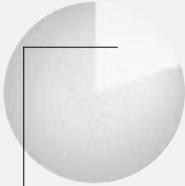


Hexcel provides a wide range of materials to the sports and recreation market. Hexcel carbon fiber and prepregs are used in the bicycle, fishing rod and golf club categories, and half of the snowboards made worldwide contain Hexcel prepregs. Hexcel prepregs and honeycomb are used in athletic footwear.

## MARKETS OF OPPORTUNITY

Hexcel Markets

### 1997 GENERAL INDUSTRIAL SALES VS. TOTAL SALES



20% GENERAL INDUSTRIAL

Total 1997 General Industrial Sales: \$184.8 Million

Beyond Hexcel's primary businesses lie a host of markets which offer attractive potential for future growth. All are markets where Hexcel currently has some presence and seeks to either maintain or enhance its position. The current contribution to the company's overall sales and profits from any one of these markets may be relatively small, except in the case of electronics. Yet all offer attractive potential for growth.

**Surface Transportation:** In high speed trains, European and Asian investments in high speed rail networks create opportunities for composite materials, and the trend will someday spread to the US and elsewhere. Hexcel supplies composites for the interiors and structural components of these trains. In high speed ferries, designers and manufacturers are moving away from conventional materials and towards composites for weight savings, higher speeds and other performance efficiencies. In autos and trucks, where Hexcel's involvement began with Formula 1 race cars and luxury autos, there is a clear trend towards lighter, safer cars with enhanced performance and reduced emissions. Today Hexcel produces floor panels for Kenworth T2000 trucks, and is actively engaged in development programs with automotive and truck manufacturers to create new applications and processes for composites in motor vehicles.

**Electronics:** Fiberglass fabrics, prefinished with a bonding agent for prepregs and laminates, are an integral structural component of lightweight printed circuit boards. These circuit boards enjoy widespread use in laptop computers, cellular telephones and countless other electronic appliances. Hexcel already has a significant share of this market in Europe, and plans are underway to expand this business geographically by entering the US and other important world markets.

### Civil Engineering and Construction:

Hexcel's materials and technologies have many potential applications in the \$800 billion global civil engineering and construction market. Composite systems offer economically viable alternatives to the more traditional methods normally used to strengthen and repair bridges, elevated highways, buildings and other structures. The high strength to weight ratio of composites allows strengthening and repair to be accomplished with minimal material, labor, equipment noise and disruption. In the future, engineered products made from composites could actually replace steel and concrete structures in certain applications where strength-to-weight ratios and corrosion resistance are critical.

**Steps Toward Growth:** Hexcel views all these markets as potentially attractive growth opportunities over the longer term. And the company is taking steps to strengthen its position in these markets in two ways:

- Internal, or "organic" growth using the company's own research and technology, engineering, manufacturing and marketing resources to seize market opportunities. Hexcel Ventures, a new business unit, was created during 1997 to nurture this process. Hexcel Ventures will act as a "greenhouse" for certain carefully selected initiatives targeted at some of these markets of opportunity. One objective of Hexcel Ventures is to leverage technologies and capabilities across business units in the interest of using Hexcel's unique vertical integration to provide solutions to customers.

- External growth through selective, targeted acquisitions, joint ventures and other business alliances.

Among the other markets of opportunity where Hexcel already has a presence are decorative fabrics for window treatments, wind energy and ballistics.

Over the next several years, Hexcel expects to use both of these potential avenues for growth to expand beyond commercial aero-



The current contribution to Hexcel's overall sales and profits from any one of these markets of opportunity except for electronics, may be small. Yet all offer **attractive potential for future growth.**



Hexcel is taking steps to strengthen its position in these markets of opportunity. First, through internal growth using its own research and technology, engineering, manufacturing and other capabilities. Second, through external growth with targeted acquisitions, joint ventures and other business alliances.

## GLOSSARY

### of Terms

**Adhesive** A thermoset resin (e.g., epoxy, phenolic or BMI) in the form of a thin film or paste, cured under heat and pressure to bond a wide range of composite, metallic and honeycomb surfaces.

**Aramid** A high strength, high stiffness fiber derived from polyamide. Kevlar® and Nomex® are examples of aramids.

**Carbon Fiber** Fiber produced by carbonizing precursor fibers based on PAN (polyacrylonitrile), rayon and pitch to eliminate non-carbon atoms. The term is often used interchangeably with graphite. However, carbon fibers and graphite fibers are made and heat treated at different temperatures and have different carbon contents.

**Composite Material** Product made by combining two or more dissimilar materials such as fibers and resins to create a product with exceptional structural properties not present in the original materials.

**Cowls or Cowling** The outside protective shell of a jet engine, traditionally made out of metal. Cowls mainly provide the engine with protection from the elements and with structural support.

**Engineered Products** Completed composite components that typically are manufactured from prepregs, honeycomb, adhesives and assembled hardware. These parts are ready for direct attachment to a structure (e.g., aircraft) or to sub-assemblies. Emerging manufacturing processes allow the fabrication of engineered products directly from reinforcing fibers/fabrics and matrix resins.

**Fairing** A secondary structure of an airplane providing enhanced aerodynamics. Typically, fairings are found where the wing meets the body or at various locations on the leading or trailing edge of the wing.

**Fiberglass** Filaments made by drawing molten glass, commonly used to reinforce composite materials.

**Filament Winding** A process to manufacture composite materials components such as rocket casings and cylinders. Fiber filaments are impregnated in a resin matrix and then wound in a predetermined pattern over a form of the desired component.

**Honeycomb** A unique, lightweight, cellular structure made from either metallic sheet materials or non-metallic materials (e.g., resin-impregnated paper or woven fabric) and formed into hexagonal nested cells, similar in appearance to a cross-section of beehive.

**Inlet Ducts** Intake passages or tubes that confine and conduct air. They are usually located at the upstream end of an airplane engine on the engine cowling and aid in propulsion and engine cooling.

**Interiors** Finished internal aircraft components, such as overhead stowage compartments, lavatories, sidewalls, floor panels and ceilings.

**Kevlar®** An aramid fiber from DuPont. Woven Kevlar® fabrics are used in both ballistic and composite materials applications.

**Modulus** The physical measurement of stiffness in a material. A high modulus indicates a stiff material.

**Nacelle** The protective shell of a jet engine housed within the cowling, usually made from honeycomb. Provides noise absorption, insulation, structural support and can aid heat dissipation.

**Nomex®** DuPont's registered trade name for its high temperature resistant aramid papers, pressboard, staple fibers and filament yarns. Nomex® aramid paper is used in the manufacture of honeycomb.

**PAN (Polyacrylonitrile)** A polymer which when spun into fiber is used as a precursor material in the manufacture of certain carbon fibers.

**Precursor** The PAN, rayon or pitch fibers from which carbon or graphite fibers are derived.

**Prepreg (Pre-impregnated)** A composite material made from combining high performance reinforcement fibers or fabrics with a thermoset or thermoplastic resin matrix. When cured under high temperature and pressure, exceptional structural properties are achieved.

**Primary Structure** A critical load-bearing structure on an aircraft. If this structure is severely damaged, the aircraft cannot fly.

**Radome** The housing which protects the aircraft radar system from the elements while allowing transmission of radar signals. Often the radome is in the nose of an aircraft but can be found at other locations on the aircraft, as well.

**Reinforcement** A strong material which when combined with a resin matrix forms a composite material. Reinforcements are usually continuous fibers, which may be woven. Fiberglass, aramid and carbon fibers are typical reinforcements.

**Reinforcement Fabrics** Woven fiberglass, carbon or aramid fabrics used in production of prepregs and honeycomb.

**Repair and Retrofit** The reinforcement or repair of existing structures to strengthen them or increase their ability to withstand an earthquake or other forces. Until recently, repair and retrofit was done with traditional materials like steel, but now it can also be done with composite materials.

**Resin Matrix** In reinforced fiber composites, the formulated polymeric substrate.

**Sandwich Panels** A stiff and lightweight panel consisting of thin sheets such as aluminum or cured prepreg laminate bonded to a low density, rigid core material (e.g., foam or honeycomb).

**Special Process** The forming, shaping, machining or bonding of sheets or blocks of honeycomb into profiled and complex shapes for use as semi-finished components in the fabrication of composite parts and structures.

**Structures** Finished components for aircraft and industrial applications. For aircraft, these may be for primary or secondary external structures.