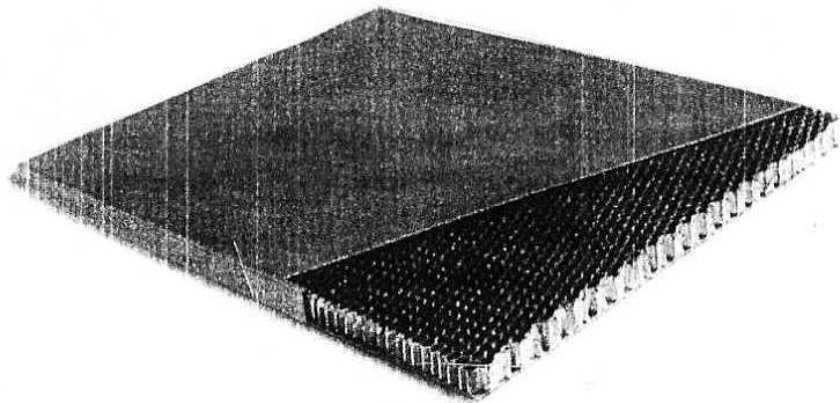


**DATA SHEET**

**HONEYCOMB TOOLING PANELS**

**REK HCL-180**



**For use with low-temperature, composite tooling applications.**

This fabricated tooling panel is built from fiberglass and epoxy skins with a perforated and corrosion-resistant aluminum core for up to a 180°F (82°C) working temperature. Contains two plies of 10-ounce fiberglass (.030 total thickness). Its surface is protected with high-quality peel ply for ready bonding and highly stable composite tooling.

**Uses**

Stretch Form Supports  
Support Structures  
Egg Crate Supports  
Drill Fixtures  
Check Gauges

**Sizes**

4' X 8' Standard  
4' X 12' Standard  
Other Sizes Available  
Upon Request

**Thickness**

1/2", 3/4", 1", 1.5", 2"

Meets Boeing MMS 101 specifications.

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## **DATA SHEET**

# **HONEYCOMB TOOLING PANELS**

## **REK HCL-12 DOUBLE CORE**

**Double Core 180°  
Extra strength for laminated tooling applications.**

An extra-strong tooling panel fabricated with four plies of 10-ounce fiberglass with two pieces of honeycomb sandwiching. in total, 12 plies are bonded together for high strength and dimensional stability. A fiberglass-and-epoxy skin and perforated, corrosion-resistant aluminum core provide 180°F (82°C) maximum working temperatures. Peel ply surface creates easy bonding.

<b>Uses</b>	<b>Sizes</b>	<b>Thickness</b>
Egg Crate Stiffening	4' X 8' Standard	1", 1.5", 2", 3", 4"
Support Structures	4' X 12' Standard	
Bonding Jigs	Other Sizes Available	
Drill Fixtures	Upon Request	
Check Gauges		

Meets Boeing MMS 101 specifications.

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## DATA SHEET

# HONEYCOMB TOOLING PANELS REK HCL-16

### 16 Ply Triple Core 180°

**For use with heavy-duty and low-temperature applications.**

Constructed much like our Double Core Panel and also designed for 180°F (82°C) maximum working temperatures, the Triple Core contains four 4-ply skins of 10-ounce 7500 fiberglass with two pieces of Honeycomb sandwiching. A total of 16 plies are pressed together for high peel strength. Peel ply surface for easy bonding.

#### Uses

Egg Crating Stiffeners  
Support Structures  
Bonding Jigs  
Check Gauges  
Drill Fixtures

#### Sizes

4' X 8' Standard  
4' X 12' Standard  
Other Sizes Available  
Upon Request

#### Thickness

1", 1.5", 2", 3", 4"

Meets Boeing MMS 101 Specifications

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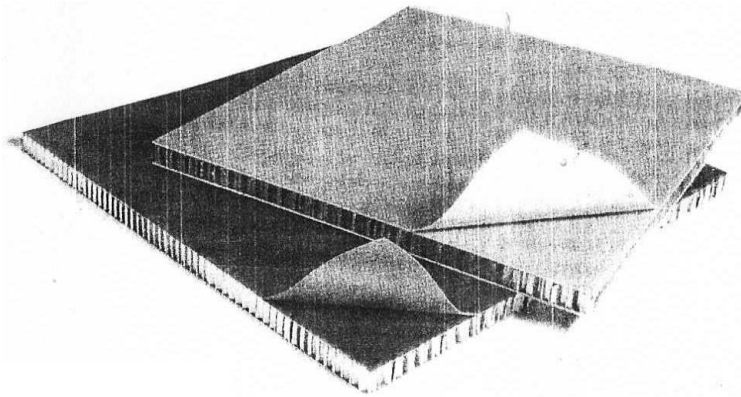
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**DATA SHEET**

**HONEYCOMB TOOLING PANELS**

**REK HCI-350**



**For mid-temperature applications**

Aluminum Honeycomb panel fabricated with fiberglass skins and high-temperature resins for working temperatures up to 350°F (176°C). A perforated corrosion resistant core and 2 plies of 10-ounce fiberglass cloth provide strength and stability. Bonded under pressure for high peel strength. Honeycomb panel post cured. Peel ply applied for good bonding surface. Staged post cured to 350°F (176°C).

**Uses**

Bonding Jigs  
Stretch Form Supports  
Autoclave Applications  
Egg Crating

**Sizes**

4' X 8' Standard  
4' X 12' Standard  
Other Sizes Available  
Upon Request

**Thickness**

1/2", 3/4", 1", 1.5", 2"  
3", and 4"

Meets Boeing MMS 101 Specifications

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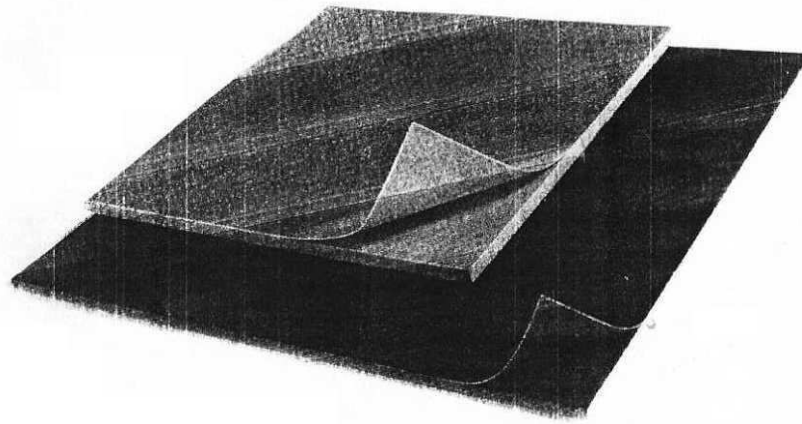
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## DATA SHEET

# HONEYCOMB TOOLING PANELS

## REK 180-MF



### Laminated Tooling Board 180°

This panel is ideal for low-temperature reinforcing and construction of laminated tooling applications. It is manufactured from 1.5-oz. fiberglass mat 10 oz. fiberglass cloth impregnated with epoxy resins that are pressed out with a 500 or 600-ton press. The working temperature of the REK 180-NF is 180°F (82°C).

<b>Uses</b>	<b>Surface</b>	<b>Sizes</b>	<b>Thickness</b>
Check Gauges Egg Crating Support Structures Stiffening Ribs Drill Fixtures	Peel Ply	4' X 8' Standard 4' X 12' Standard Other Sizes Available Upon Request	1/8", 1/4", 3/8", 1/2" 5/8", 3/4", 1"

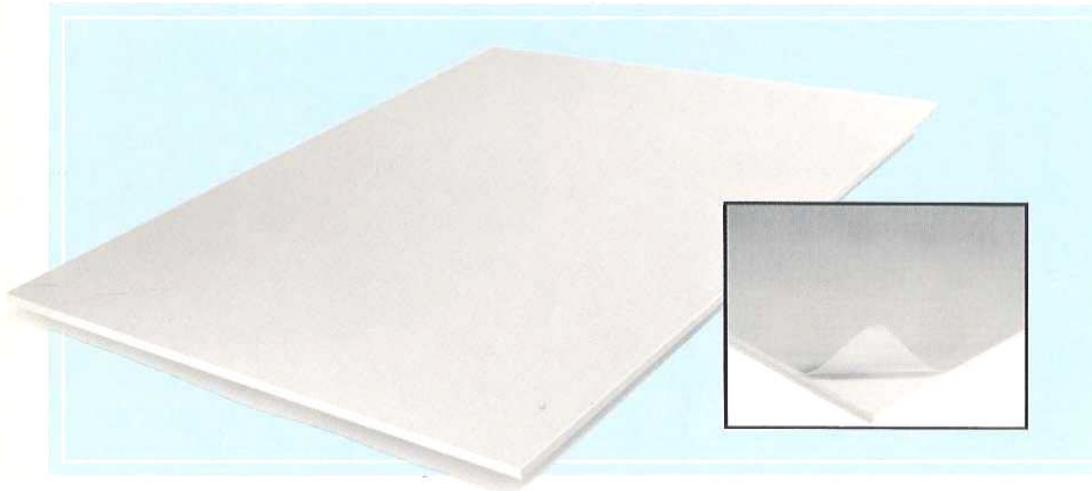
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## DATA SHEET

# LAMINATED TOOLING BOARD REK 350-MF



### Laminated Tooling Board 350°

For mid-temperature reinforcing and construction of laminated tooling applications.

The Laminated Tooling Board and Plate consist of multiple layers of fiberglass mat with multiple layers of 1.5 oz mat cloth impregnated with epoxy resins that are pressed out with a 500 or 600-ton press.

The working temperature of the REK 350-MF is 350°F (82°C).

<b>Uses</b>	<b>Surface</b>	<b>Size</b>	<b>Thickness</b>
Check Gauges	Peel Ply	4' X 8' Standard	1/8", 1/4", 3/8", 1/2"
Egg Crating		4' X 12' Standard	5/8", 3/4", 1"
Support Structures		Other Sizes Available	
Stiffening Ribs		Upon Request	
Drill Fixtures			

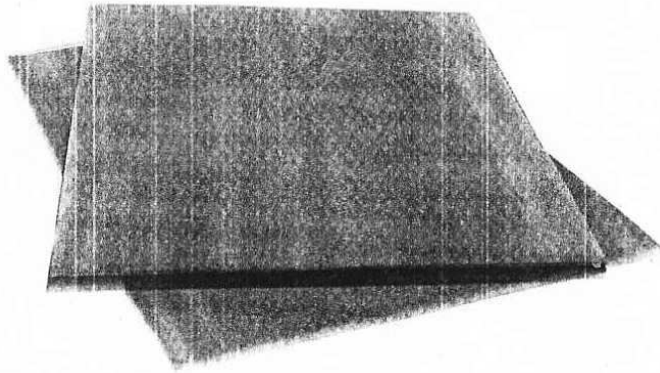
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## DATA SHEET

# LAMINATED TOOLING BOARD REK FSF-350



### High Temp Laminated Tooling Board

Ideal for mold work, all High Temp Flat Stock is laminated with high temperature resins up to 450°F. High Temp Flat Stock is constructed of 7500 style fiberglass and 1.5 oz. matting or 100% 7500 fiberglass.

A special peel-ply material is factory applied to the flat stock to provide protection during shipment and to aid in the bonding process. Peel-ply material must be removed prior to use.

<b>USES</b>	<b>SURFACE</b>	<b>SIZES</b>	<b>THICKNESS</b>
Support Structures Egg Crating Stiffening Ribs Check Gauges Drill Fixtures	Peel Ply	4' X 8' 4' X 12' Other Sizes Available on Request	1/4", 3/8" 1/2" Other Sizes Available on Request

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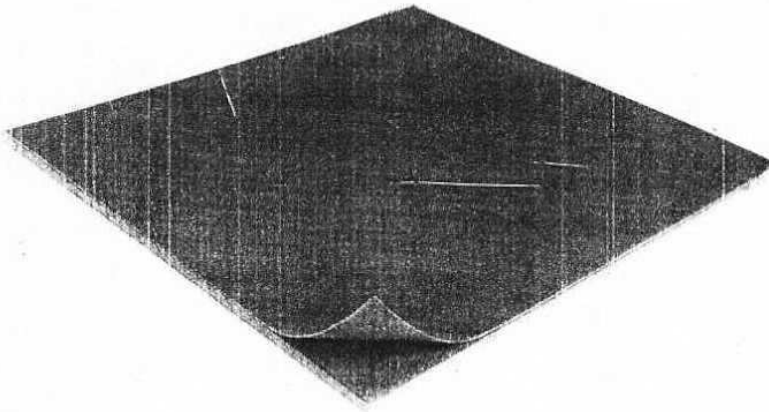
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**DATA SHEET**

**LAMINATED TOOLING BOARD**

**REK 180-P**



**Phenolic**

The plastic phenolic is both rugged, dependable, and of the highest grade available in the industry.

<b>Uses</b>	<b>Surface</b>	<b>Sizes</b>	<b>Thickness</b>
Ribbing	Smooth or Sanded	4' X 10' Standard	1/4", 3/8", 1/2"

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**DATA SHEET**

**POLYURETHANE FOAM**

**REK 612-PF**



Polyurethane foam is available in various densities from 4 to 40 lbs. Ford Motor Company and other automotive and aircraft companies for making patterns and models have approved the 20 lb. density. Dimensional stability is good. The 6 & 10 lb. densities are suitable for N.C. and tape proofing. Polyurethane foam produces patterns that are light and easier to mock-up. It's possible to use polyurethane foam to take duplicates from patterns without damaging the original. Popular densities, such as 2, 6, 10 & 20 lb. are stocked. All other densities can be special ordered.

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## **DATA SHEET**

# **LIGHTWEIGHT FIBERGLASS TOOLING BOARD**

REK-200J was introduced for use as a lightweight set-up board on bench top assembly jigs. The product is composed of two fiberglass face sheets with a core of lightweight, medium density foam. REK-200J is produced in sheet form. One side is molded flat with a white surface and the backside is covered with protective peel ply. It is intended to replace aluminum jig plate in applications where reduced weight is feasible. Its lower cost and reduced weight offer major savings in both material and labor. Preliminary testing has shown REK-200J sheet stock to hold tapped threads; press-fit bushings, inserts, drilled pinholes and reamed pinholes.

REK-200J is designed for:

**Uses**

Lightweight set-up boards on bench top assembly jigs

**Sizes**

4' x 8' Standard  
Other sizes available upon request

**Thickness**

1/4', 1/2', 3/4", 1'  
Other sizes available upon request

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## **DATA SHEET**

# **HONEYCOMB GRAPHITE TOOLING BOARD 180" & 425"**

**Tooling panel fabricated from carbon graphite skins and corrosion-resistant aluminum core for high temperature applications. Skins are two plies of 10 oz. carbon fiber cloth .030 thickness.**

### **APPLICATION**

Reinforcing graphite tooling with high dimensional stability.  
425° F working temperature.  
Staged post cured to 425°F.

#### **Uses**

Autoclave uses up to 425°F  
Stretch forms  
Egg crating stiffeners  
Bonding fixtures

#### **Sizes**

4' X 8' Standard  
4' X 12' Standard

#### **Thickness**

1/2", 1", 1.5", 2"

Meets Boeing MMS 101 specifications.

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## **DATA SHEET**

# **GRAPHITE TOOLING PANEL**

## **180" & 425"**

Laminated tooling panel consisting of multiple layers of 10-oz. graphite cloth impregnated with epoxy resins and pressed with 600-ton press.

### **APPLICATION**

Reinforcing high temperature tooling panel for high performance uses in autoclave conditions. Working temperatures to 425°F. Staged post cured to 425°F.

#### **Uses**

High temp. oven tools  
Stiffening ribs  
Graphite parts  
Reinforcement for  
graphite tooling  
Egg craft stiffeners

#### **Surface**

Peel-ply

#### **Sizes**

4' X 8' Standard  
4' X 12' Standard

#### **Thickness**

1/8", 1/4", 3/8"  
1/2", 5/8", 3/4"  
1"

Meets Boeing MMS 101 specifications

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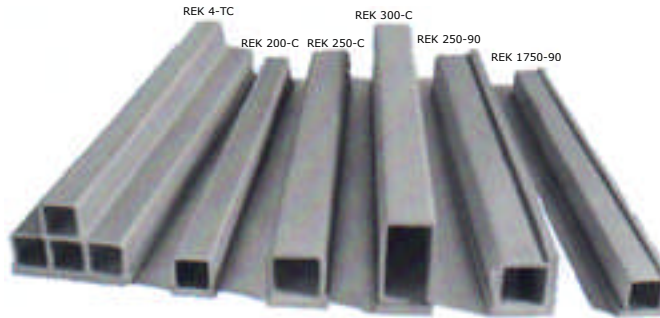
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# DATA SHEET

## LAMINATED STRUCTURAL TUBING

### MAXIMUM STRENGTH RELIABLE SUPPORT



Quality fiberglass epoxy backup support components, such as structural tubes, are an important part of building checking fixtures, vacuum forming dies or other similar tooling. We provide a complete selection of round and square laminated tubes.

All tubes are made of 7500 treated cloth 38" to 50" wide. They all contain multiple layers of fiberglass or graphite cloth impregnated with epoxy resins. A special rolling process and thorough inspection procedures insure uniform wall thickness in every component. As with our panels, both room temperature and high-temperature materials are available.

Hawkeye also offers graphite tubing as an alternate to graphite honeycomb and flat stock.

#### Fiberglass Support Tubing 180

Uses	Sizes	Length
Construction of tooling support trusses	Rnd: 1" to 1 3/4"OD Sq: 1" to 2 1/2"OD Other sizes available	8' X 10' Standard Other sizes available
Stiffening structures		
Operating temp. up to 180°F (82°C)		

#### Fiberglass Support Tubing 350/425

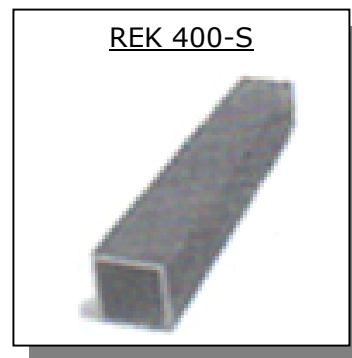
Uses	Sizes	Length
Construction of tooling support	Rnd: 1" to 1 3/4"OD Sq. 1" to 2 1/2" OD	8' X 10' Standard Other sizes available upon request
Stiffening structures		
Operating temp. up to 425°F (218°C)		

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## DATA SHEET

# LAMINATED STRUCTURAL TUBING

## MAXIMUM STRENGTH RELIABLE SUPPORT



### Carbon Fiber Angles

Made from multiple layers of carbon fiber or fiberglass. Manufactured in a steel die and pressed to give flatness and uniformity. Carbon fiber angles are available for low-temperature operations up to 450° F (232°C).

### Uses

To tie in composite tooling plates for basing.

### Sizes

1", 2", up to 6"

### Carbon Fiber Structural Tubing

Multiple layers of carbon fiber or fiberglass. Impregnated with epoxy resins. Molded and compressed in a closed die for flatness and squareness.

### Uses

Stiffening structures for support of composite tooling  
Available in 180°F (82°C)  
and 400°F (204°C)

### Sizes

2" and 4" Sq. O.D.

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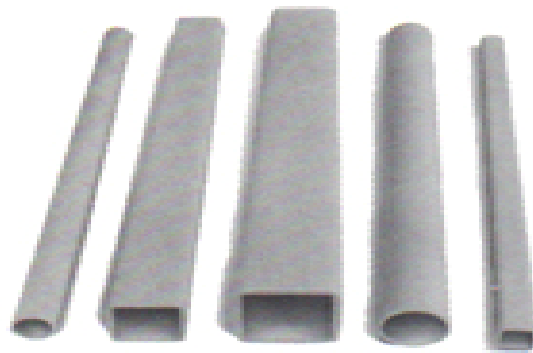
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## DATA SHEET

# LAMINATED STRUCTURAL TUBING

## MAXIMUM STRENGTH RELIABLE SUPPORT



REK 1750-R REK 200-S REK 250-S REK 200-R REK 200-S

### Aluminum Bonded Fiberglass Support Tubing 180°

Our lower temperature square structural tubing is bonded with aluminum casting resins and is intended for operating temperatures up to 180°F (82°C).

#### Uses

Construction of tooling support trusses  
Stiffening structures  
Operating temp. up to 180°F (82°C)

#### Sizes

Rnd: 1" to 1 3/4"OD  
Sq: 1" to 2 1/2"OD  
Other sizes available

#### Lengths

8' X 10' Standard  
Other sizes available  
Other sizes available

### Support Tubing Bonded with Aluminum Filled Casting Resins. 350°/425°

Our square structural tubing is bonded with aluminum filled casting resin for use in customized configurations which may be used for special operating temperatures up to 350°F (176°C) and 425°F (232°C).

#### Uses

Construction of tooling support  
Stiffening structures  
Operating temp. up to 425°F (218°C)

#### Sizes

Rnd: 1" to 1 3/4"OD  
Sq: 1" to 2 1/2" OD

#### Lengths

8' X 10' Standard  
Other sizes available upon request

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# HAWKEYE INTERNATIONAL, LTD.

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