

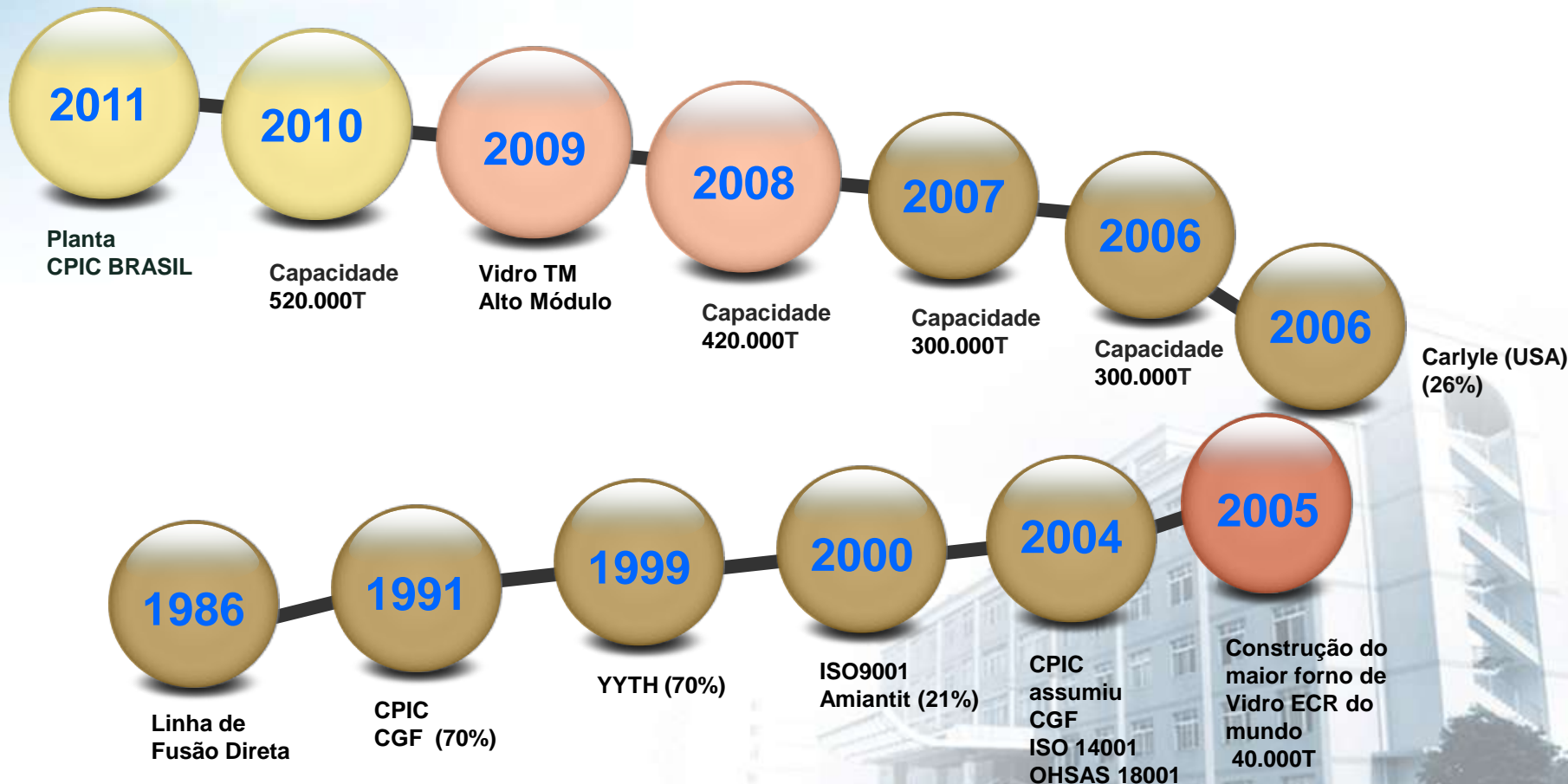
CPIC BRASIL
Uma Nova Marca
no Mercado do Brasil
com 20 Anos de Experiência



为大众提供更好的安居、更舒适的生活

FOR BETTER LIVING BETTER LIFE

Histórico CPIC Fiberglass





Breve Introdução CPIC Fiberglass

- **CPIC** - Chongqing Polycomp International Corporation.
 - Joint venture entre o grupo YYTH, grupo de investimento Carlyle e o grupo Amiantit
 - A CPIC possui 3 bases de produção
 - 12 linhas de produção de Fibra de vidro
 - Capacidade anual: 550.000MT
 - Tipos de vidro: E – ECR – ECT – TM (alto modulo)
 - Colaboradores: 5.480 pessoas

- **CPIC BRASIL** – CPIC Brasil foi o primeiro investimento da CPIC Fiberglass fora da China, isso representa o compromisso de desenvolver o mercado de compósitos do mundo



DaDuKou Base



ChangShou Base



Sistema de Gerenciamento da Qualidade



Certificação Sistema Gerenciamento da Qualidade

- Em Maio de 2001 CPIC foi certificada ISO9001
- Em Março de 2005 CPIC foi certificada OHSAS18001:1999 pela organização britânica BSI



Certificação dos Produtos

Lloyd's Register : Produtos Roving Direto , Tecidos, Manta de Fios Picados



CERTIFICATE OF APPROVAL OF A FIBRE REINFORCEMENT

Certificate No. MATS/286/1

This certificate is issued to the company named below. The fibre reinforcement described has been examined in accordance with the requirements of Lloyd's Register and is approved for use in constructions built under Lloyd's Register's survey. This approval is subject to Lloyd's Register being informed of any changes in its conditions to the reinforcement and the product being used in accordance with the manufacturer's instructions and with the relevant requirements of Lloyd's Register's Rules and Regulations.

Company:	CHONGQING POLYCOMP INTERNATIONAL CORPORATION CHONGQING CHINA, PEOPLE'S REPUBLIC OF		
Trade name:	EMC 480		
Type:	Chopped strand mat		
Mass:	480 g/m ²		
Finish:	Silane		
Characteristics:	Powder Bound		
Applicable LR Rules:	Rules and Regulations for Classification of Special Service Cloth		
Approved Variants:	EMC 200	200 g/m ²	
	EMC 300	300 g/m ²	
	EMC 380	380 g/m ²	

Valid until: 1 April 2009

Date: 30 March 2004

J. C. Howson
Surveyor to Lloyd's Register (EMEA)
On behalf of Lloyd's Register Asia

THIS DOCUMENT IS SUBJECT TO THE PROVISIONS ON THE REVERSE

Certificate of FDA Compliance

Certification No.: RJSCKN1509026FDA Test Report No.: 18C171828 etc.

Applicant: CHONGQING POLYCOMP INTERNATIONAL CORP.
Address: DADUKOU DISTRICT, CHONGQING, P.R. CHINA
FDA Facility Registration No.: 18034148368
Product Description: GLASS FIBER CHOPPED STRANDS
Model: ECS303A/H, ECS306, ECS305K/H, ECS301HG, ECS301CL
Test Standard: U.S. FDA FOOD CONTACT ARTICLE TEST IN ACCORDANCE WITH 21CFR 175.300
U.S. CFR TITLE 16(CPSC REGULATIONS)PART 1363 TOTAL LEAD CONTENT
Test Performing Date: SEP. 10, 2005
Test Laboratory: THE HONGKONG STANDARDS AND TESTING CENTRE LTD.

Conclusion:
This certificate is only valid for the equipment and configuration described, in conjunction with the test data detailed above.
This certificate makes no other representations or warranties, nor does it make any representations or warranties for any person or entity other than the named certificate holder. RJS Standard testing & certification center, assumes no liability in any person or entity in connection with the foregoing.



Thomas Hsu
Chief Operation Officer
Date: Sep. 10, 2005



RJS STANDARDS TESTING & CERTIFICATION CENTER
141-04 146th Avenue, Whitestone, New York 11357, USA.

Certificação da FDA Compliance:
Produtos ECS306, ECS301CL,
ECS301HG, ECS305K/H, ECS303A/H da
linha de fios picados para termoplásticos



Certificação dos Produtos

Tecido Roving e Manta de Fios Picados com ligante Emulsão foram certificados pela DNV.



Tecido Roving



Manta de Fios Picados com ligante Emulsão





Certificação dos Produtos

Tecidos Quadriaxial e Biaxial certificado pela GL



Produtos disponíveis CPIC Fiberglass

CHOPPED STRAND MAT (短切原絲氈)



- Roll width up to 312cm are available up on request.
- Packing: PE bag inside, corrugated carton outside.
- Carton size: 1075×285×285.
- 包 裝：內部用PE膜，外用瓦楞紙箱包裝
- 紙箱尺寸：1075×285×285

WOVEN ROVING



Identification of product code

EWR 800 - 300

- E-glass woven roving
- Unit weight
- Width(mm)



Produtos disponíveis CPIC Fiberglass

STITCHED MAT & COMBINED MAT



Identification of product code

E **MK** **300** - **1270**

- E-glass
- Mat Knitting
- Unit weight, Unit: g/m²
- Width, Unit: mm

TISSUE SPECIFICATION



Identification of product code

ST (**ECR**) **25** - **45**

- Surface Tissue
- ECR-glass roving
- Unit weight
- Width(cm)

Produtos disponíveis CPIC Fiberglass

MULTI-AXIAL FIBERGLASS FABRICS



Product information:

CPIC MULTI-AXIAL FIBERGLASS FABRICS include Unidirectional Fabrics (0° or 90°), Biaxial Fabrics (0°, 90°), (±45°), Triaxial Fabrics (0°, ±45°), (90°, ±45°), and Quadraxial Fabrics (0°, 90°, ±45°). The entire or partial warp (0°), weft (90°) and double bias (±45°) plies are stitched into a single fabric. Without filament crimp in woven roving, CPIC multi-axial fabrics are in advantage of high strength, excellent stiffness, low weight and thickness, as well as the improved fabric surface quality.

CPIC can add chopped strand mat or tissue on the surface or in the middle of multi-axial fabrics, competent to fulfill customer's special requirements.

Product code:

EKT 900(0, +45, -45)/T50E-1260

E: E-glass	无碱玻璃	Areal weight / layer(g/m ²)克重: 900
K: Knitting	编织物	Fabric construction 织物结构: 0° ,+45° ,90° , -45°
U: Unidirectional	单轴向	Chopped strand: 短切纱 300、225
B: Biaxial	双轴向	Tissue: 薄毡 50
T: Triaxial	三轴向	E: Epoxy 环氧专用
Q: Quadraxial	四轴向	width 宽度(mm): 1260



www.cpicfiber.com

CPIC BRASIL Fibras de Vidro Ltda



为大众提供更好的安居、更舒适的生活
FOR BETTER LIVING BETTER LIFE

Principais eventos

Cronograma dos Principais Eventos

1988	Início do Projeto (Saint-Gobain)
1989	Início da importação e venda de produtos – pré-marketing
1992	Inauguração da planta em Capivari - (Saint-Gobain)
1999	Linha de Manta transferida da Argentina para Capivari
2001	Reconstrução do forno e aumento da capacidade
2007	Aquisição pela Owens Corning
2011	Aquisição pela CPIC Fiberglass



Localização da planta CPIC BRASIL

- Fábrica em Capivari / SP
- Início Produção: 1992
- Reconstrução da Fábrica em 2001: Capivari II
- Reconstrução da Fábrica em 2012: Capivari III
- Área terreno: 200.000 m²





CPIC BRASIL

**“Porque ter a CPIC BRASIL
como parceiro nos seus
projetos?”**





CPIC BRASIL - VANTAGENS

- Fornecedor Local – Regional para toda América do Sul
- Faturamento conforme programação do cliente
- Assistência Técnica
- Grupo de Desenvolvimento Técnico
- Logística Local
- Gama Completa de Reforços de Fibra de Vidro
- Baixo Inventário para os Clientes
- Alta Tecnologia para Fabricação de Fibra de Vidro



Sistema de Gerenciamento da Qualidade

ABS Quality Evaluations Certificate Of Conformance

This is to certify that the Quality Management System of
CPIC BRASIL FIBRAS DE VIDRO LTDA.
Rod. Campinas-Tietê, SP 101, Km. 40,5
Capivari, SP 13360-000
Brazil

has been assessed by ABS Quality Evaluations, Inc. and found to be in conformance with the requirements set forth by
ISO 9001:2008
The Quality Management System is applicable to:

DEVELOPMENT AND MANUFACTURE OF GLASS FIBERS FOR REINFORCEMENT OF RESINS AND PLASTICS

<p>Certificate No: 80882 Original Certification Date: 30 April 2007 Effective Date: 15 January 2010 Expiration Date: 14 January 2013 Issue Date: 10 June 2011</p>	 Alex Wisniewski, President    
---	--

*Validity of this certificate is based on the periodic audits of the management system defined by the above scope and is contingent upon prompt written notification to ABS Quality Evaluations, Inc. of significant changes to the management system or scope/requirements covered.
ABS Quality Evaluations, Inc. 3887 Southwood Drive, Houston, TX 77056, U.S.A.
*Validity of this certificate may be verified at www.abs-qe.com, address.

ABS Quality Evaluations Certificate Of Conformance

This is to certify that the Environment Management System of
CPIC BRASIL FIBRAS DE VIDRO LTDA.
Rodovia Campinas - Tietê Km 40,5
Capivari, SP 13360-000
Brazil

has been assessed by ABS Quality Evaluations, Inc. and found to be in conformance with the requirements set forth by
ISO 14001:2004
The Environment Management System is applicable to:

DEVELOPMENT AND MANUFACTURE OF GLASS FIBERS FOR REINFORCEMENT OF RESINS AND PLASTICS

<p>Certificate No: 80817 Original Certification Date: 16 January 2007 Effective Date: 15 December 2009 Expiration Date: 14 December 2012 Issue Date: 10 June 2011</p>	 Alex Wisniewski, President  
---	--

*Validity of this certificate is based on the periodic audits of the management system defined by the above scope and is contingent upon prompt written notification to ABS Quality Evaluations, Inc. of significant changes to the management system or scope/requirements covered.
ABS Quality Evaluations, Inc. 3887 Southwood Drive, Houston, TX 77056, U.S.A.
*Validity of this certificate may be verified at www.abs-qe.com, address.

ABS Quality Evaluations Certificate Of Conformance

This is to certify that the Health and Safety Management System of
CPIC BRASIL FIBRAS DE VIDRO LTDA.
Rodovia Campinas - Tietê Km 40,5
Capivari, SP 13360-000
Brazil

has been assessed by ABS Quality Evaluations, Inc. and found to be in conformance with the requirements set forth by
OHSAS 18001:2007
The Health and Safety Management System is applicable to:

DEVELOPMENT AND MANUFACTURE OF GLASS FIBERS FOR REINFORCEMENT OF RESINS AND PLASTICS

<p>Certificate No: 40058 Original Certification Date: 08 March 2007 Effective Date: 15 January 2010 Expiration Date: 14 January 2013 Issue Date: 10 June 2011</p>	 Alex Wisniewski, President 
---	---

*Validity of this certificate is based on the periodic audits of the management system defined by the above scope and is contingent upon prompt written notification to ABS Quality Evaluations, Inc. of significant changes to the management system or scope/requirements covered.
ABS Quality Evaluations, Inc. 3887 Southwood Drive, Houston, TX 77056, U.S.A.
*Validity of this certificate may be verified at www.abs-qe.com, address.



Produtos disponíveis CPIC BRASIL



Mantas de Fios Picados

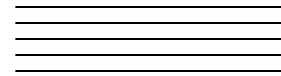


Tecidos Bidirecionais

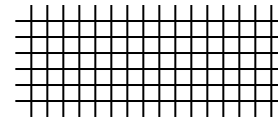


Tecidos Direcionados

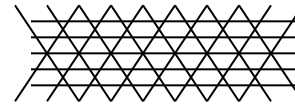
Unidirecional (UD)



Tipo 0/90



Multiaxial (ex. +45/0/-45)



Vantagens

- Obtenção de altas propriedades mecânicas
- Aumento em volume (teor) de vidro

Desvantagens

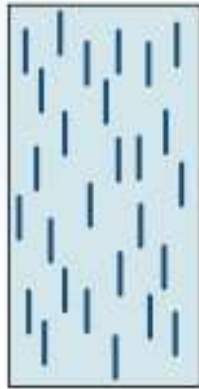
- Deformação ou conformação muito limitada
- Reduzem a permeabilidade

Em certos casos, o uso de multiaxiais costurados reduz estas desvantagens

Orientação Reforços



(a)



(b)



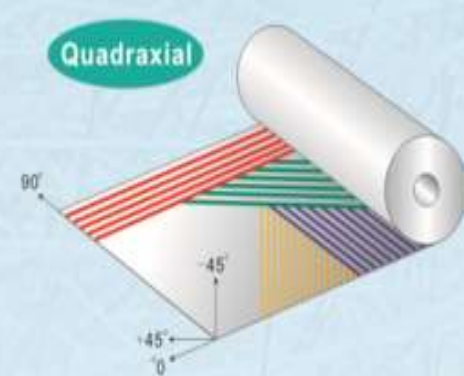
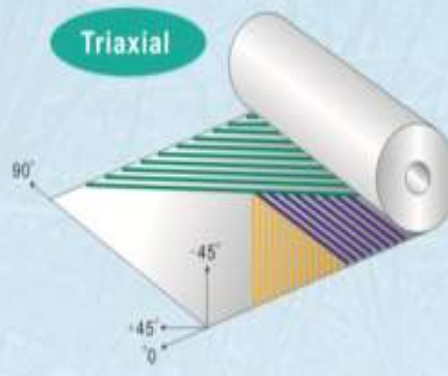
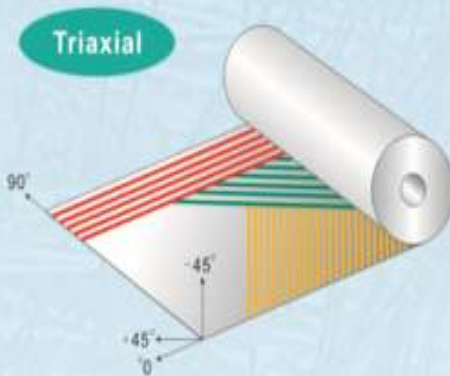
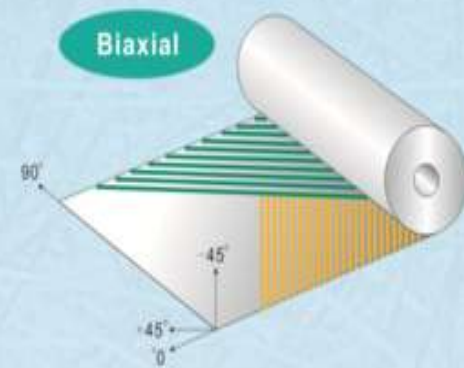
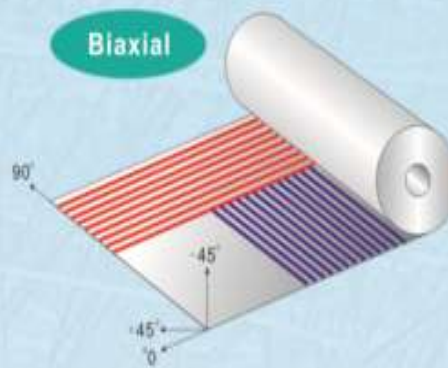
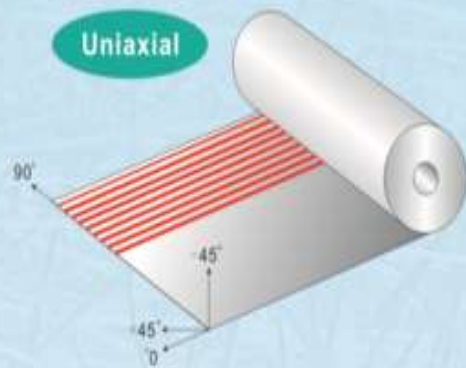
(c)

- Fibras orientadas e contínuas
- Fibras não contínuas orientadas
- Fibras não contínuas e não orientadas

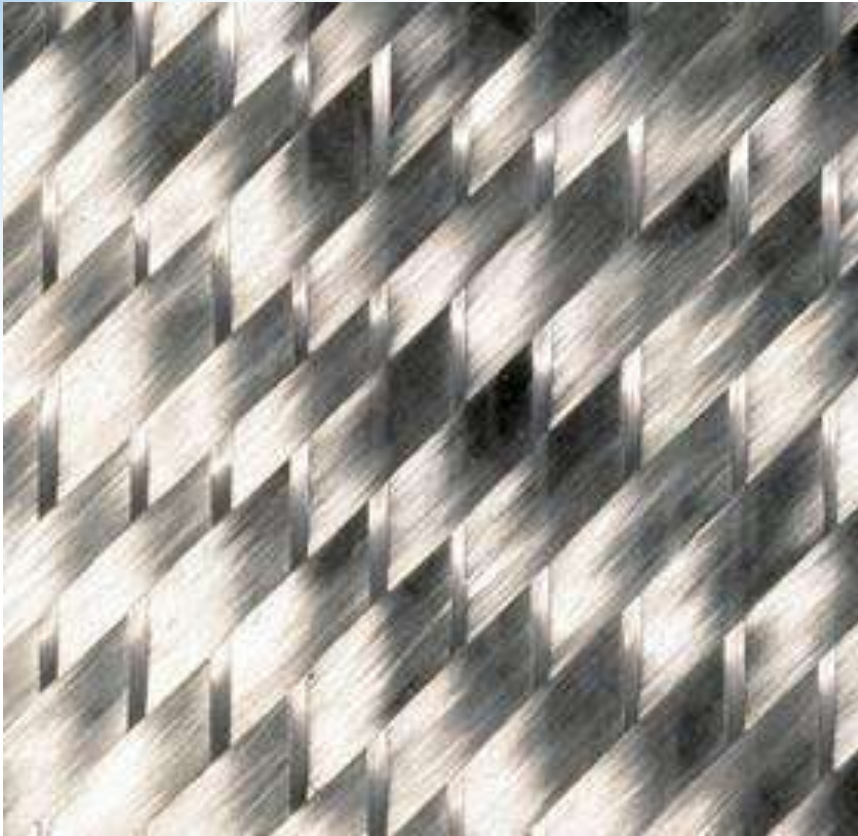


Tecidos Direcionados

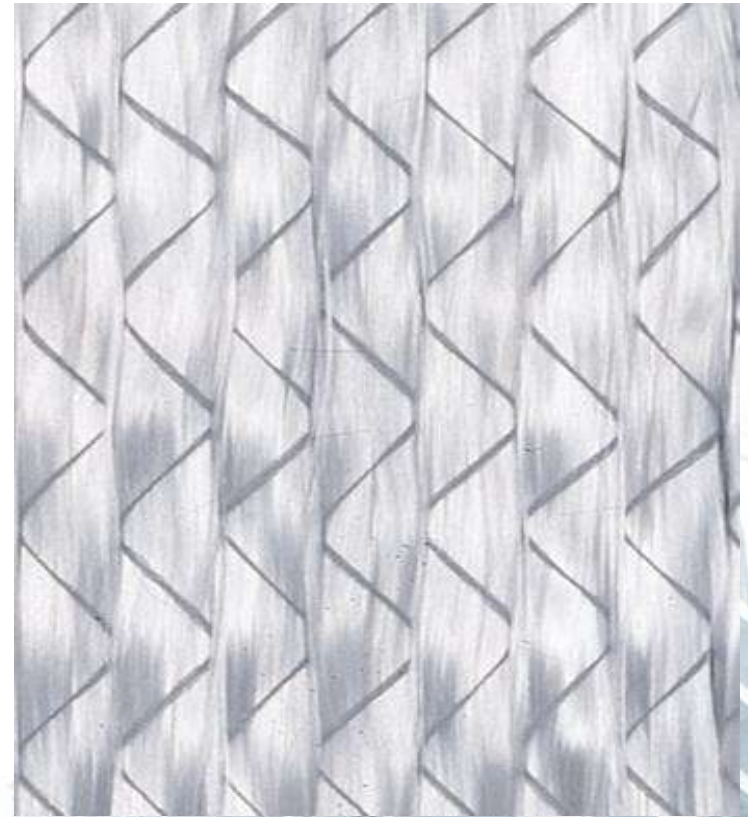
Ply sequence:



Tecidos Direccionados



Tecido Biaxial +45 / -45

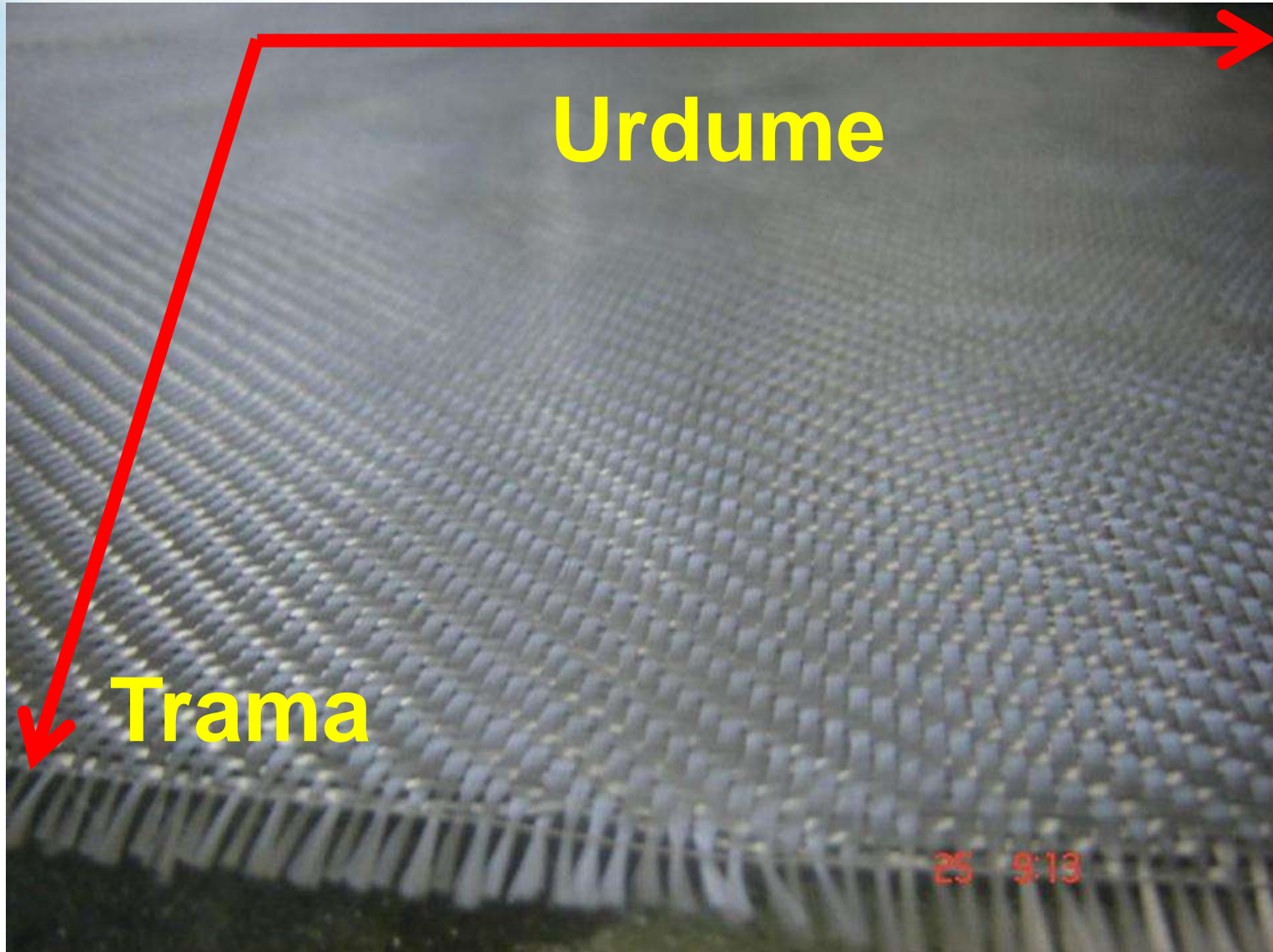


Tecido Unidireccional (0)

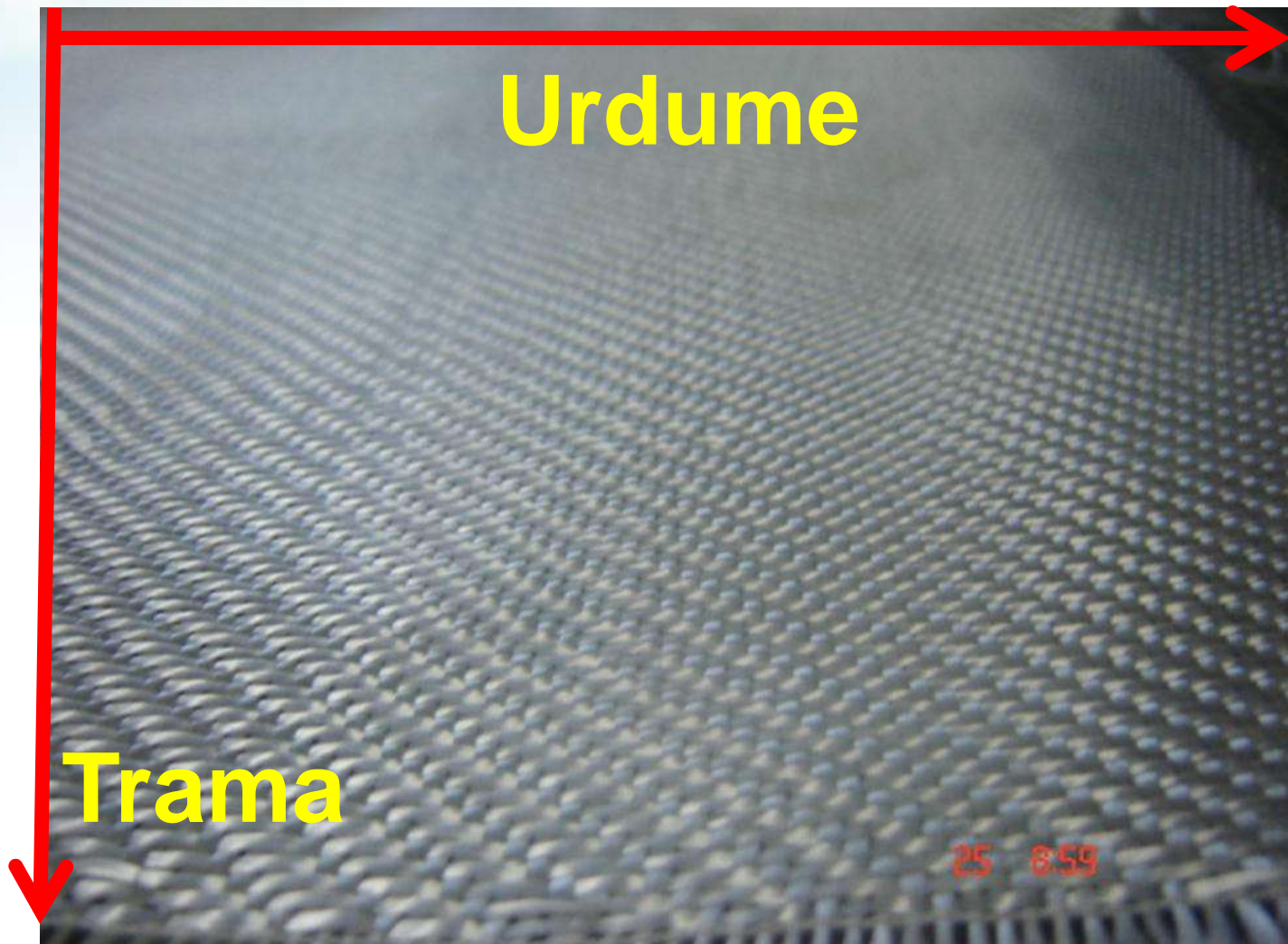
Tecido Unidirecional (0) 900 g/m²



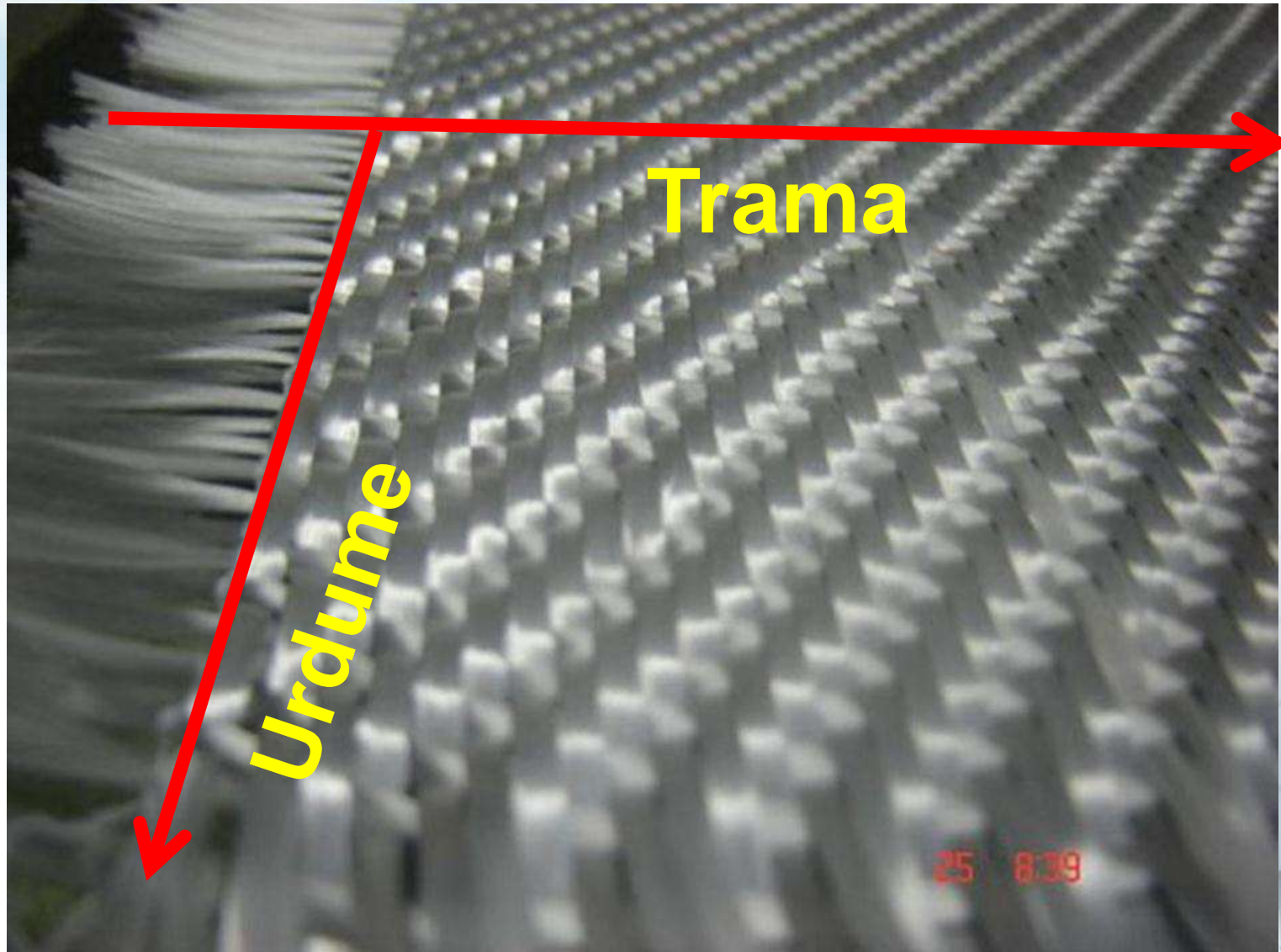
Tecido 260 g/m² - Tipo Sarja 3x1



Tecido 490 g/m² - Tipo Sarja



Tecido 990 g/m² - Tipo Sarja 3x1



Tecido Bidirecional (0,90) 800 g/m²

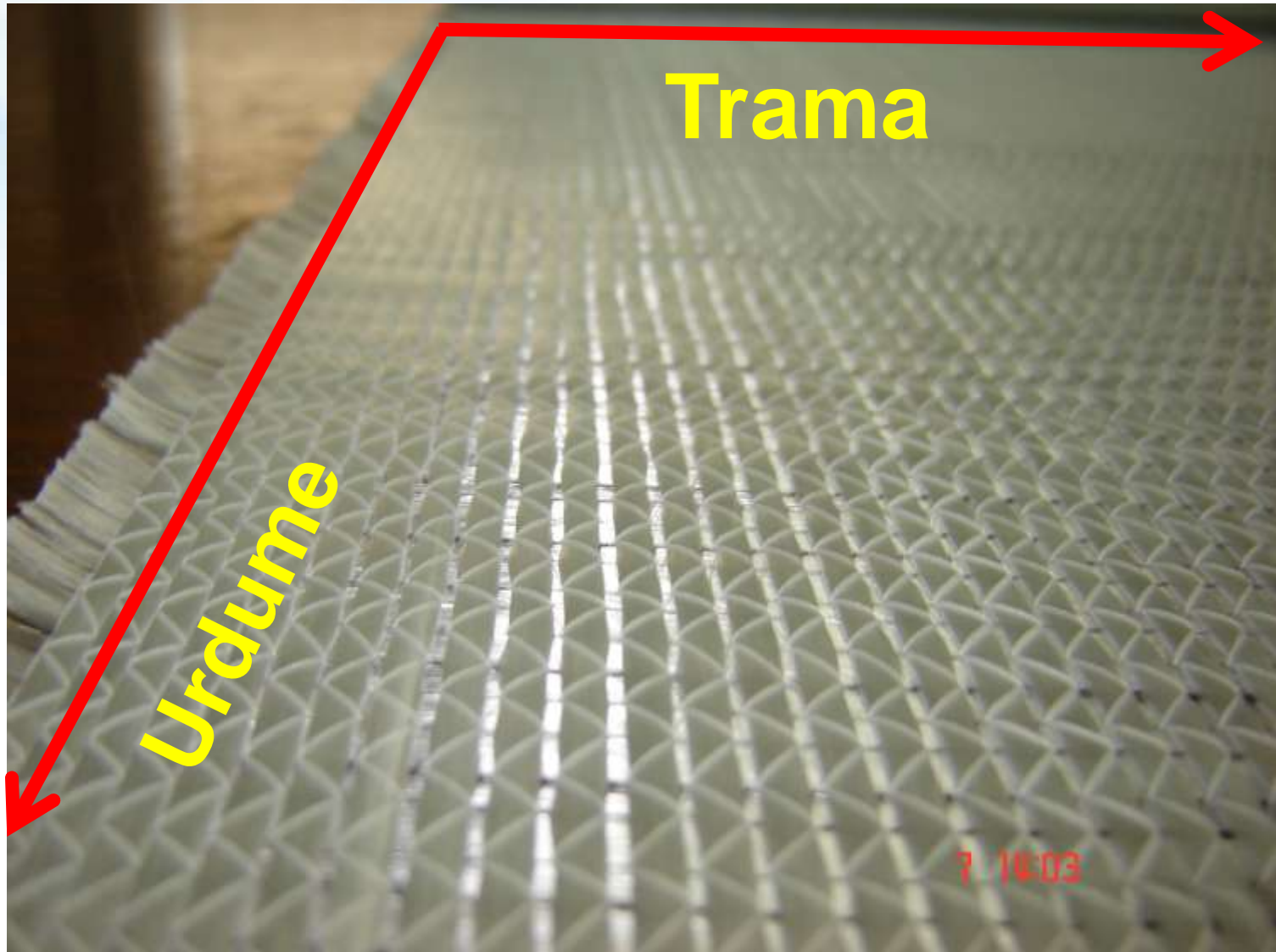


Tabela Comparativa Desempenho

Tipo de Amostra	Propriedades	Unidade	Tipos de Vidro				Método de Teste	
			E	ECR	ECT	TM		
1	Vidro	Densidade da Fibra	g/cm ³	2.59~2.63	2.66~2.70	2.60~2.64	2.58~2.62	ASTM D1505
		Ponto de Amolecimento	°C	840~850	875~885	910~920	955~965	ASTM C338
		Resistência aos Ácidos	%	20.6	2.6	3.5	3.1	Perda de Peso 10% H ₂ SO ₄ 100hrs até 96°C
		Resistencia aos Alcalis	%	6.0	2.0	2.4	2.6	Perda de Peso a 0.1M NaOH 24hrs até 60°C
2*	Mechas impregnadas roving 2400tex -17μ	Resistência a Tração	MPa	2100~2500	2100~2500	2300~2700	2500~2900	ASTM D2343
		Modulo Elasticidade	GPa	78~82	80~83	83~87	88~92	
3*	Laminados UD fabricados com o roving 2400tex -17μ	Resistência a Tração	MPa	850~1050	---	950~1150	1100~1300	ISO 527-5 % de Vidro: 73.7%
		Modulo Elasticidade	GPa	40~43	---	42~45	45~49	
4*	Laminados UD fabricados por Infusão com Tecido EKU1150(0)/50E	Resistência a Tração	MPa	800~950	---	950~1050	1050~1200	ISO 527-5 % de Vidro: 74.3%
		Modulo Elasticidade	GPa	39~41	---	41~43	44~47	

* Itens 2, 3, 4 os testes foram realizados com resina epóxi com o roving 468G-2400

Tabela Comparativa Desempenho

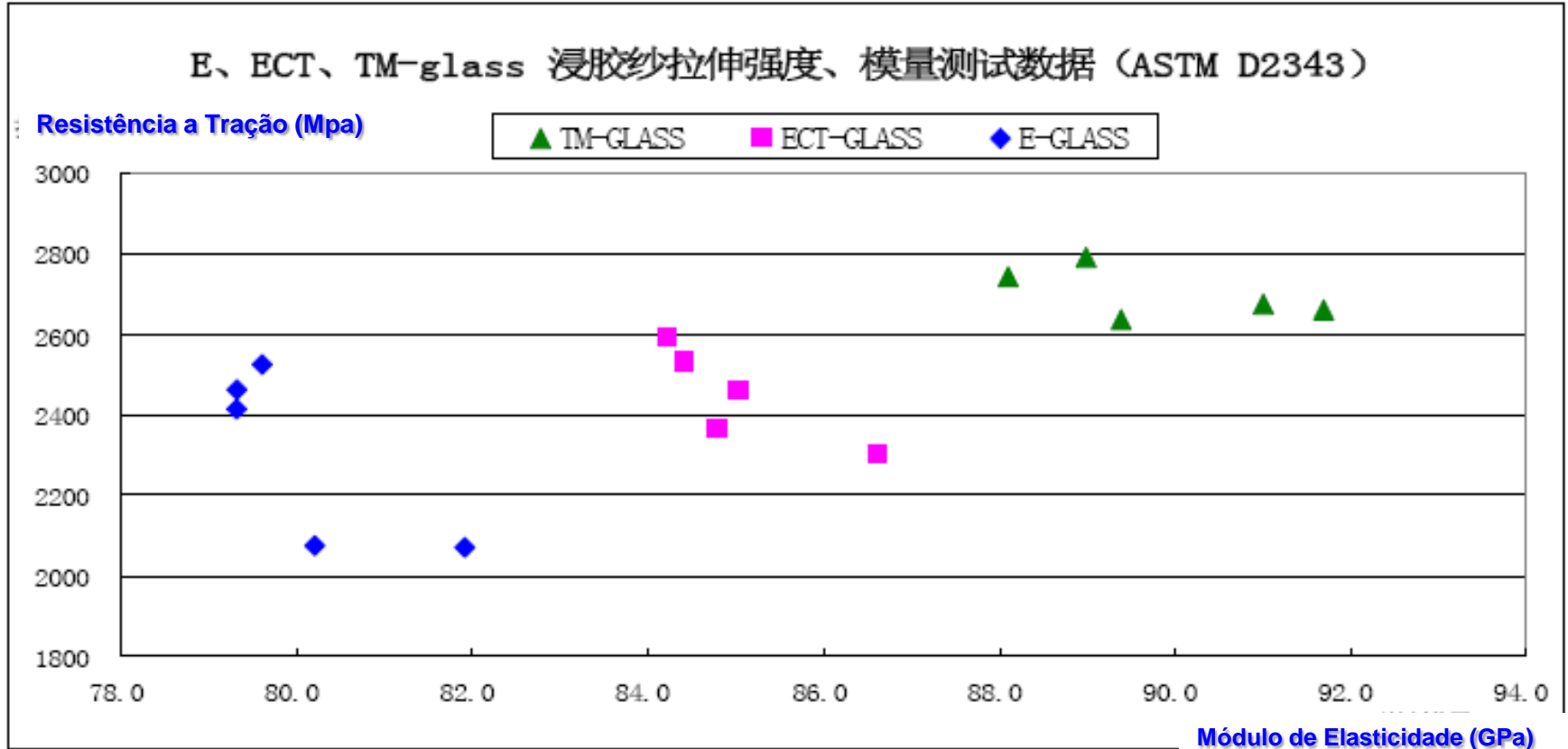


Tabela Comparativa Desempenho

三、单向纤维增强平板拉伸性能 (ISO 527-5)

E、ECT、TM-glass单向纤维增强塑料平板拉伸强度、模量 (ISO527-5) 散布图

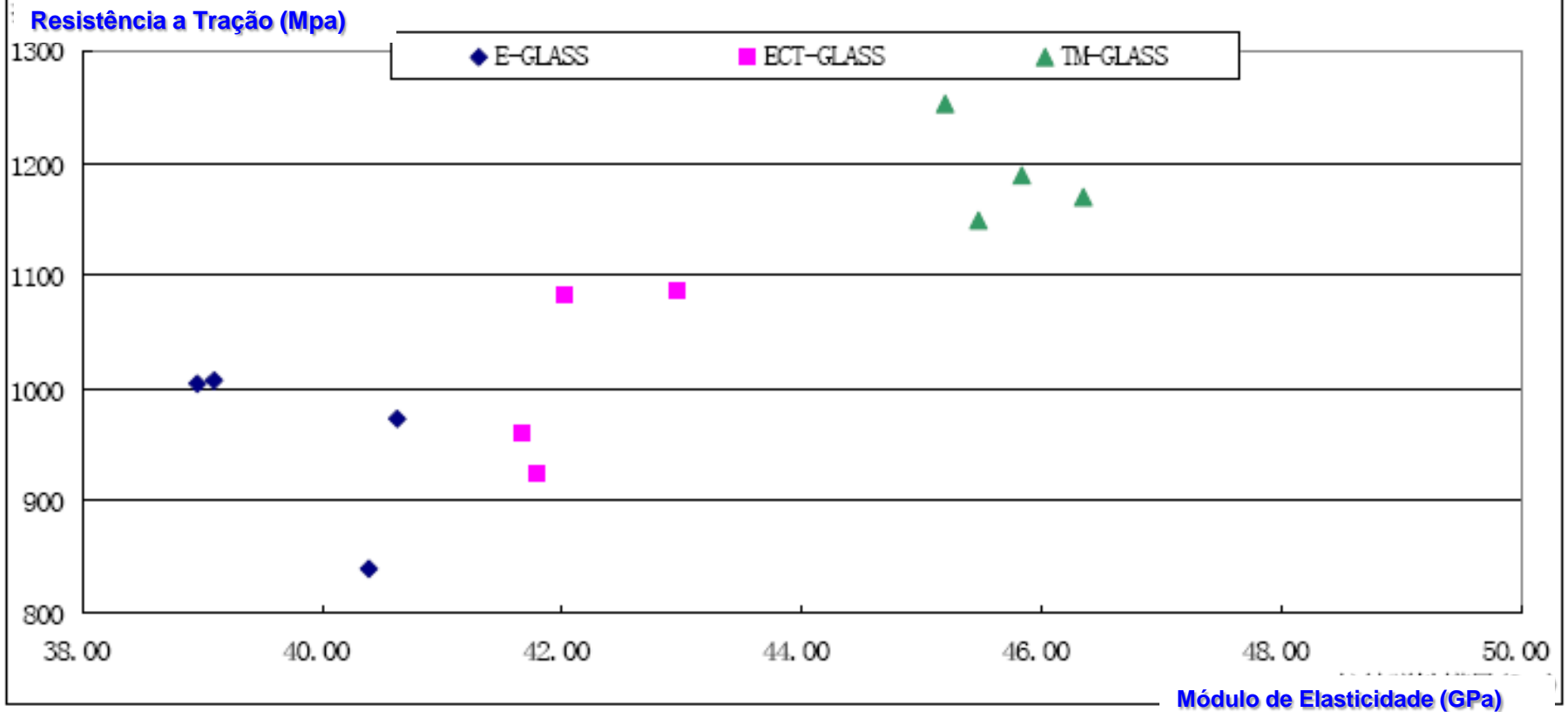
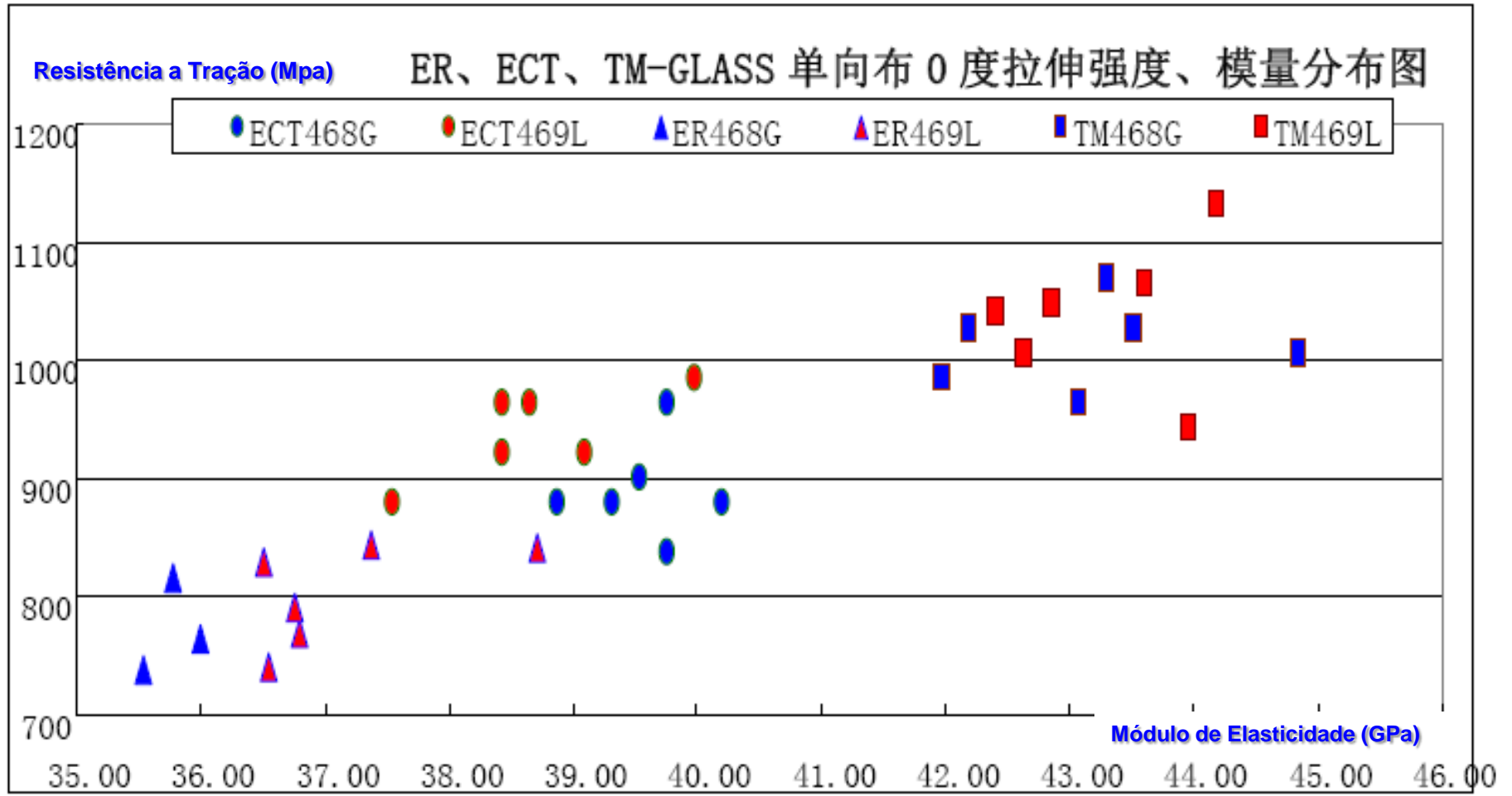


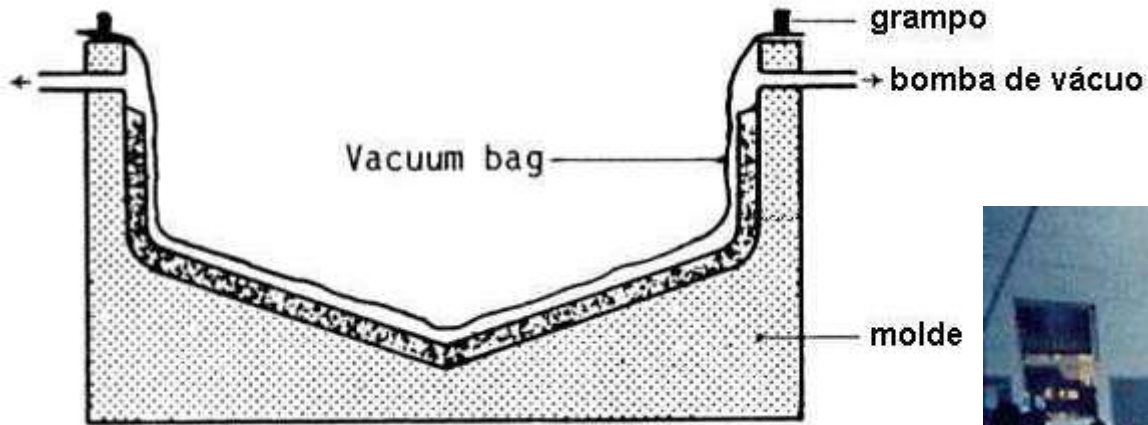
Tabela Comparativa Desempenho



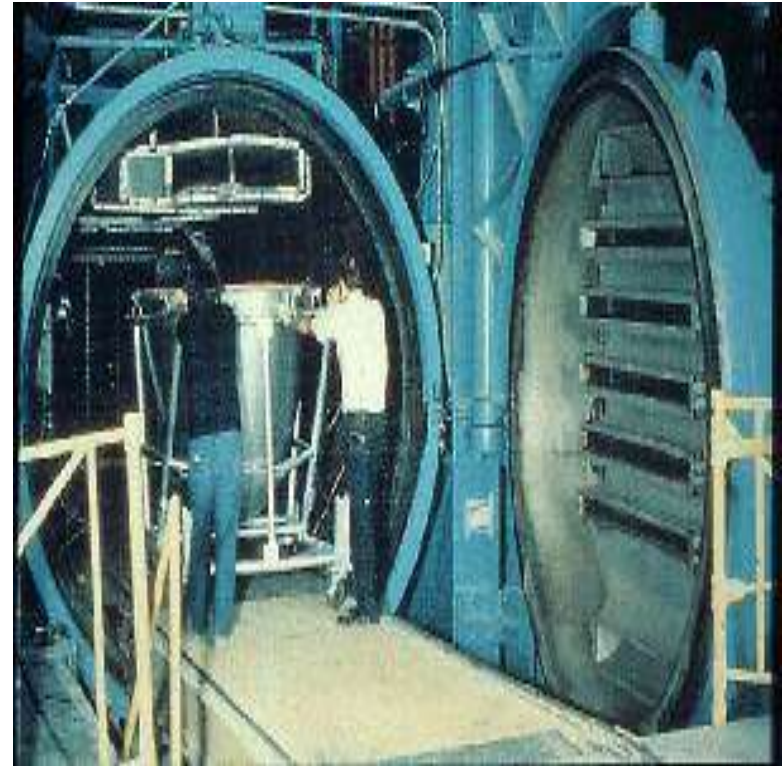
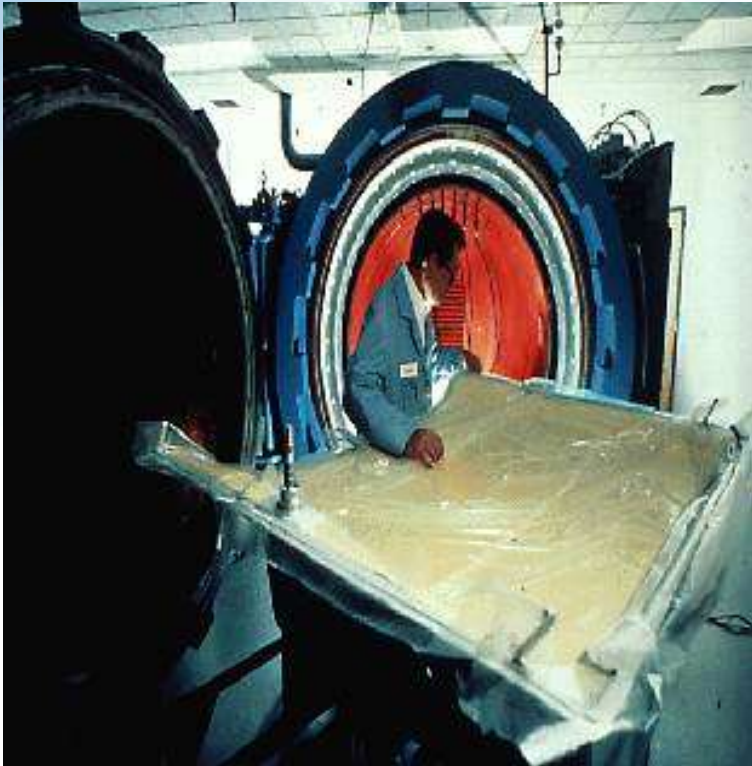
Alguns Processos de Transformação



Processos de Moldagem Vacuum bag



Processos de Moldagem Vacuum bag

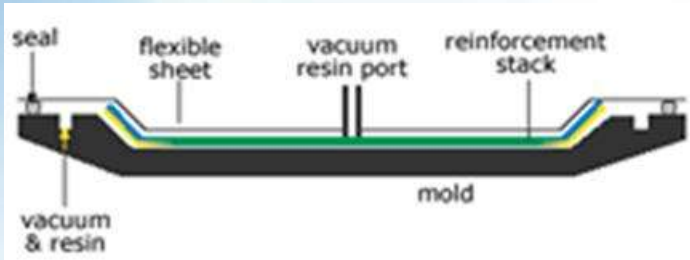


Características da Resina

- Baixa viscosidade
- Alto ciclo de produção
- Pré acelerada
- Ciclo rápido de cura
- Alta reatividade
- Baixa contração



Processos de Moldagem



Características da Resina

- Baixa contração
- Excelente impregnação das fibras de vidro, gerando ótimo acabamento superficial.
- Baixa viscosidade, sem comprometer o teor de sólidos do polímero, ela apresenta excelente fluidez
- durante o processamento, otimizando o ciclo de moldagem.

Processos de Moldagem RTM



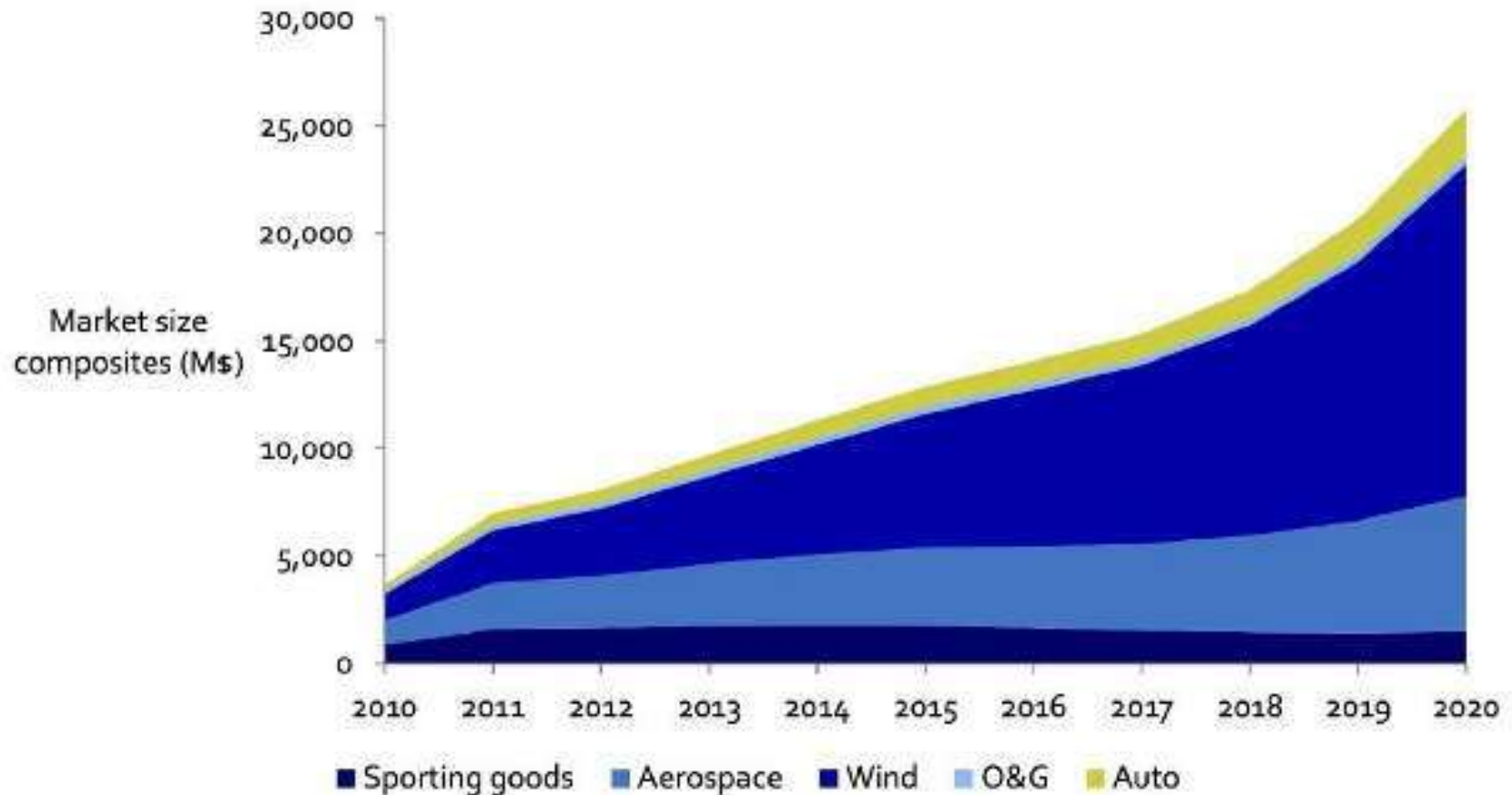
Características da Resina

- Excelente acabamento superficial,
- Propicia um ambiente de trabalho mais limpo e organizado ao reduzir a emissão e exposição a solventes.
- Rápido ciclo de cura à temperatura ambiente e baixa exotermia.
- Baixa viscosidade

Informações adicionais



Indicadores de desempenho da indústria de compósitos global



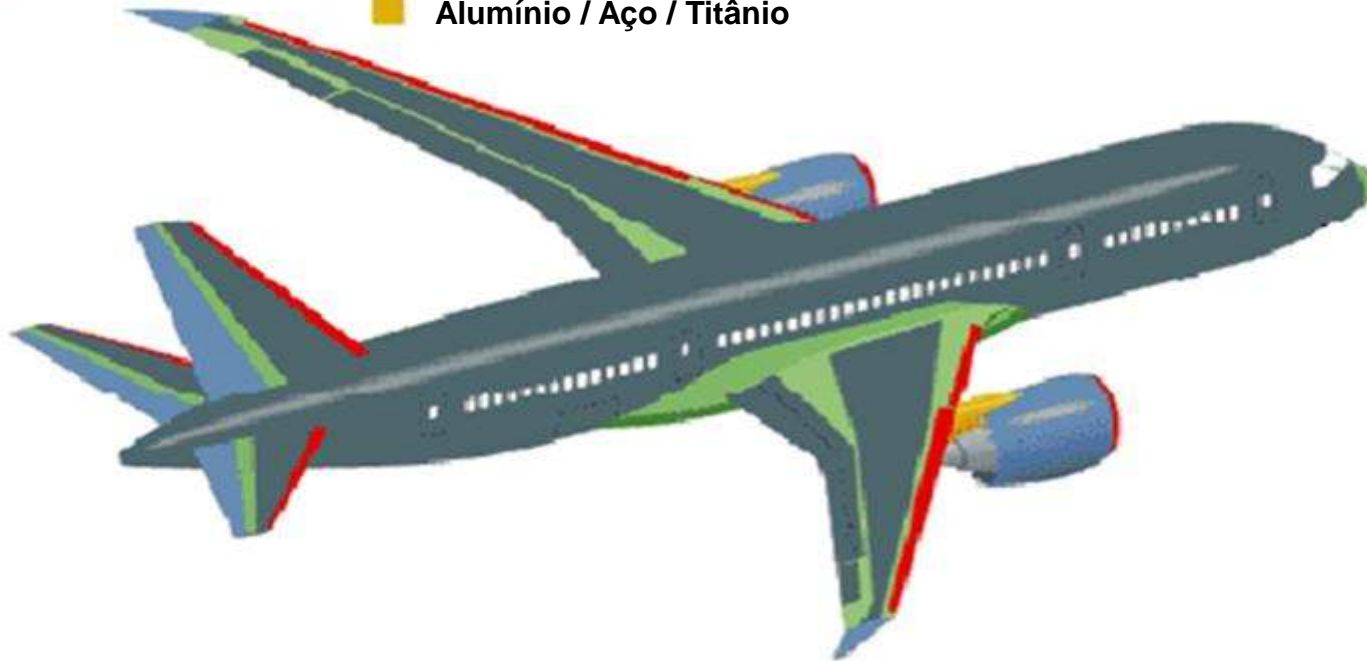
Source: Lux Research, Inc.
www.luxresearchinc.com

Materiais Compósitos 1991



Aplicação no Boeing E-787 - 2010

- Fibra de vidro
- Alumínio
- Laminado Compósitos de Carbono
- Sandwiches Compósitos de Carbono
- Alumínio / Aço / Titânio



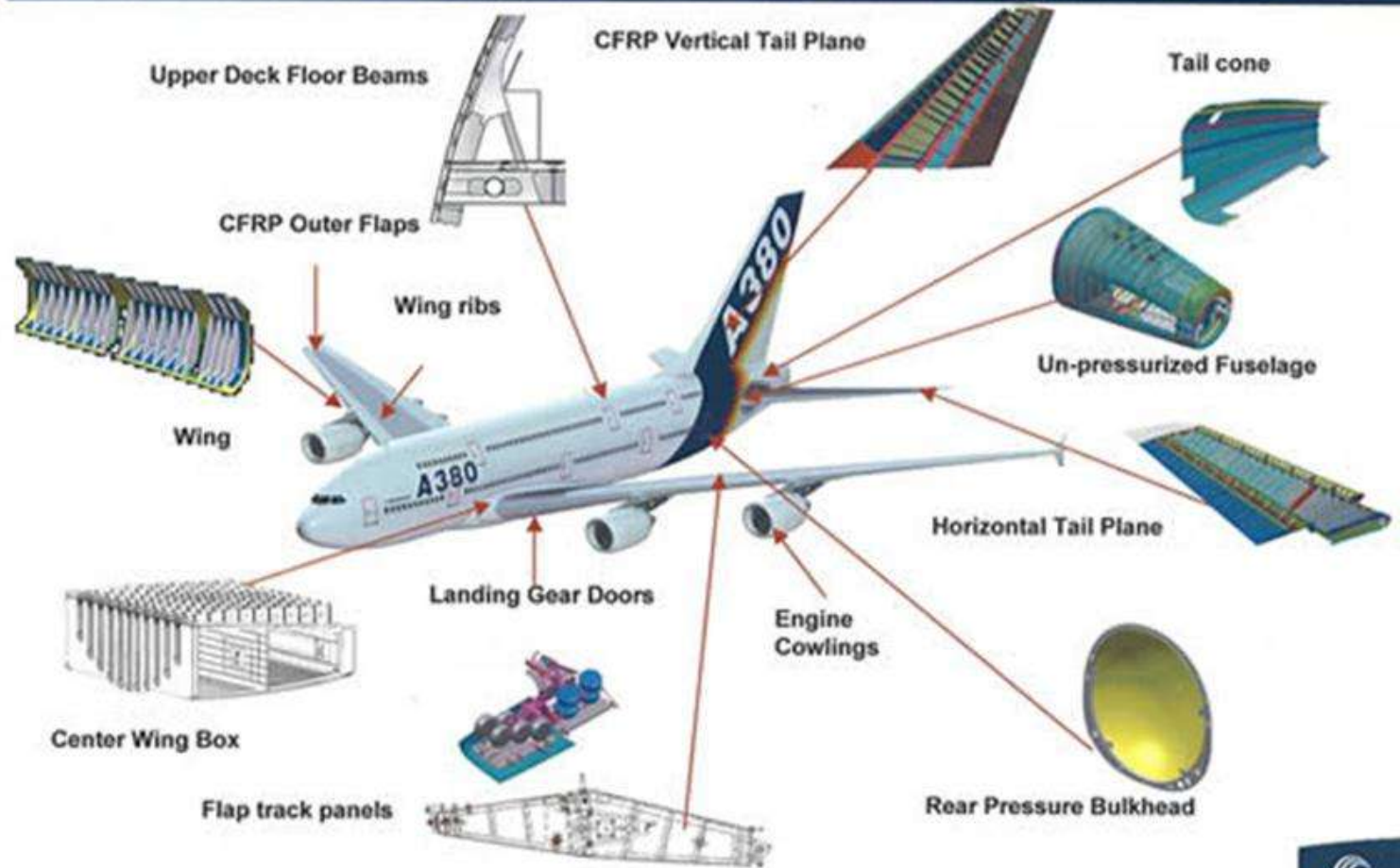
Materiais usado por peso



[Boeing - 787]

Aplicação no Airbus A380

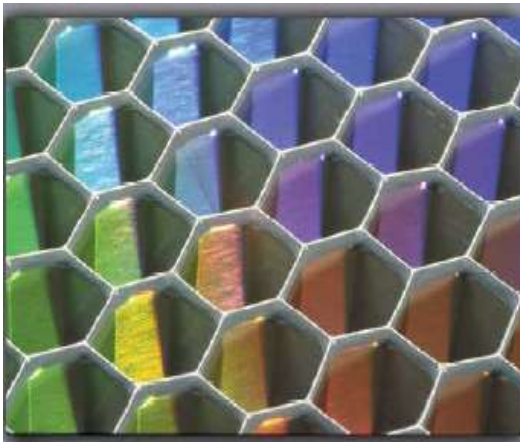
Major monolithic Carbon Fiber Reinforced Plastic (CFRP) and Thermoplastics applications



Fuselagem E-787 Boeing



Materiais de Núcleo



Materiais de Núcleo

- **Compensado**
- **Madeira Balsa**
- **Espumas PU (Poliuretano)**
- **Espumas PVC (Cloreto de Polivinila)**
- **Espumas PET (Politereftalato)**
- **Espumas SAN (Estireno Acrilonitrilo)**
- **Colméias de Alumínio, fenólica, aramida e plástico**



Exemplo de aplicação de núcleo na fuselagem



Case Stol Ch-750 Capô



Case Stol Ch-750 Capô



Radome do Air-Bus A-320



Radome do Air-Bus A-320



Spaceship II Voo sub orbital



Caravan



Aplicações



Aplicações



Aplicações



Aplicações



Aplicações



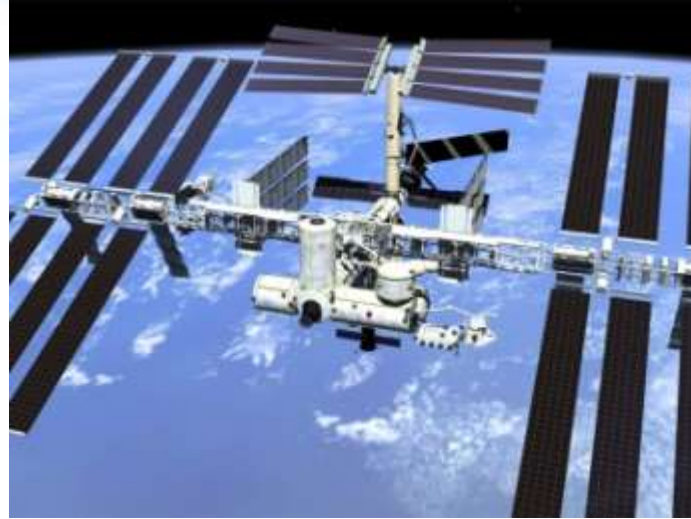
Aplicações



Aplicações



Aplicações



Fonte: Almaco



Aplicações



O Passado



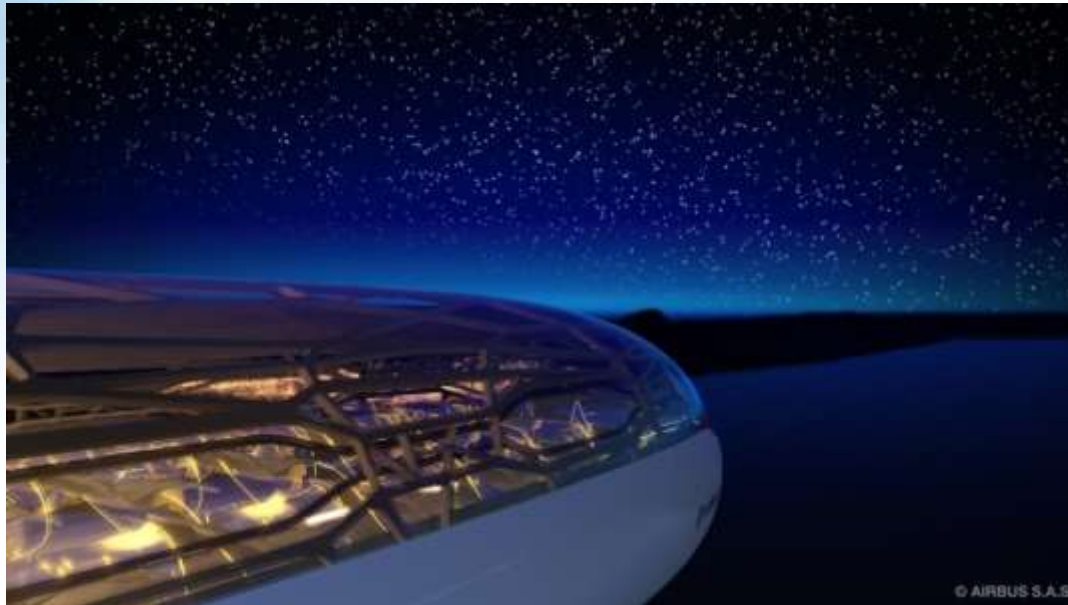
O Presente



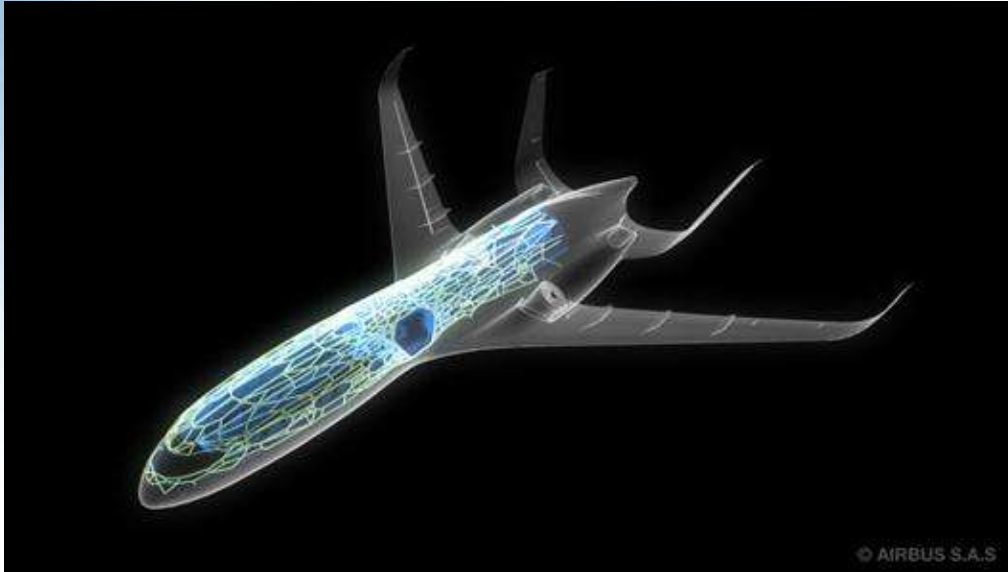
O Presente



Futuro - Airbus



Futuro - Airbus



Futuro



- **Visite-nos**
- **Estamos na Rua A**
- **Teremos o maior prazer em
recebe-los em nossa stand.**





CPIC BRASIL

Uma Nova Marca no Mercado do Brasil com 20 Anos de Experiência





Agradecemos a Presença Obrigado pela Participação

感谢大家的参与

