



PASSION • INNOVATION • PERFORMANCE

ビクトレックスは、従来の炭素繊維強化されたVICTREX® PEEK 高強度グレードに比べ、卓越した機械的特性、耐疲労性と良好な加工性を併せ持つ新たな炭素繊維強化コンパウンド「VICTREX® HMFグレード」を開発致しました。

このVICTREX HMFグレードはビクトレックスの高流動性樹脂に20%および40%の炭素繊維を配合し特殊コンパウンド技術を用いて開発された製品です。

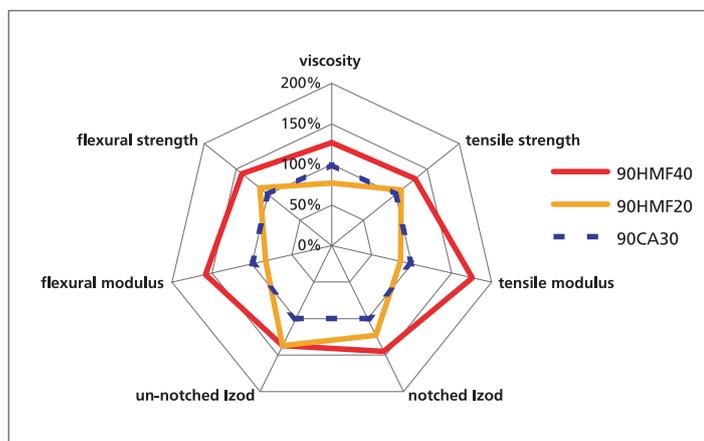
### 90HMFは、従来の炭素繊維強化された高流動コンパウンドに比べ、いくつもの優れた特性を有しています。(図1)

- 10倍超に向上した繰り返し疲労特性 (図3参照)
- 90HMF20は、従来の30%炭素繊維強化グレードに比べ、熔融流動性および靱性が向上
- 90HMF40は、従来の30%炭素繊維強化グレードに比べ、強度、剛性および靱性が約50%向上
- 良好な加工性を維持



ベアリング・ケージ

図1: VICTREX® 90HMF20および90HMF40と従来のVICTREX® PEEK 90CA30高強度グレードとの比較



### これら高機能製品の主な用途分野としては、

- 加工性を維持したまま高強度、高剛性が高充填材入り製品と同等であることが要求される用途
- 延性が要求される用途、例えばスプリットシールリングやベアリングシェルなど組み立て工程で大きな歪が生じる用途
- 繰り返し負荷に対する高耐久性が要求される用途

VICTREX® HMF-Grades

表1: VICTREX® 90HMF20および90HMF40の物性

物性	測定法	条件	単位	90HMF20	90HMF40
熔融粘度 / 0.5mm die	Victrex法	400°C	Pa.s	200	330
引張弾性率	ISO 527	23°C	GPa	22	45
引張強度	ISO 527	23°C	MPa	290	350
引張伸び	ISO 527	23°C	%	1,9	1,3
曲げ弾性率	ISO 178	23°C	GPa	19	36
曲げ強度	ISO 178	23°C	MPa	400	500
アイゾッド衝撃強度 (ノッチ付き)	ISO 180	23°C	kJ/m <sup>2</sup>	8,5	10
アイゾッド衝撃強度 (ノッチ無し)	ISO 180	23°C	kJ/m <sup>2</sup>	55	55
HDT (荷重たわみ温度)	ISO 75A-f	1,8MPa	°C	347	349
密度	ISO 1183	23°C	g/cm <sup>3</sup>	1,36	1,44

図2: 90HMF40は、従来のVICTREX PEEK高強度コンパウンドに比べ、特にガラス転移温度 (T<sub>g</sub> = 143°C) を超える温度環境において、卓越した剛性を示します。

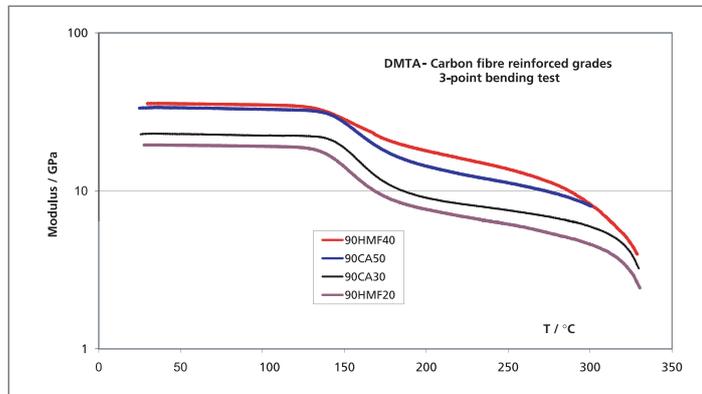
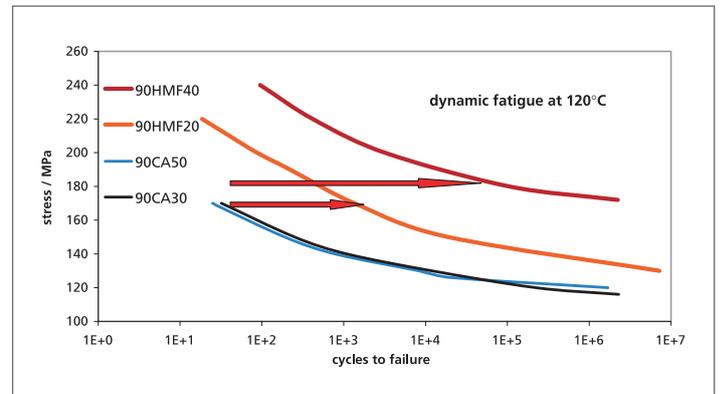


図3: 90HMF20および90HMF40は、従来のVICTREX PEEK高強度製品に比べ、120°C環境における引張疲労性能が大幅に向上しています。



**World Headquarters**

Victrex plc  
Hillhouse International  
Thornton Cleveleys  
Lancashire FY5 4QD  
United Kingdom  
Tel: + (44) 1253 897700  
Fax: + (44) 1253 897701  
Email: victrexplc@victrex.com

**Americas**

Victrex USA Inc  
300 Conshohocken State Road  
Suite 120  
West Conshohocken, PA 19428  
USA  
Tel: + (1) 800-VICTREX  
Tel: + (1) 484-342-6001  
Fax: + (1) 484-342-6002  
Email: americas@victrex.com

**Europe**

Victrex Europa GmbH  
Langgasse 16  
65719 Hofheim/Ts.  
Germany  
Tel: + (49) 6192 96490  
Fax: + (49) 6192 964948  
Email: eurosales@victrex.com

**Japan**

Victrex Japan, Inc.  
(ビクトレックスジャパン株式会社)  
東京都港区三田1-4-28  
三田国際ビルアネックス  
108-0073  
Tel: 03 5427 4650  
Fax: 03 5427 4651  
Email: japansales@victrex.com

**Asia Pacific**

Victrex High Performance  
Materials (Shanghai) Co Ltd  
Part B Building G  
1688 Zhuanxing Road  
Xinzhuan Industry Park  
Shanghai 201108  
China  
Tel: + (86) 21-6113 6900  
Fax: + (86) 21-6113 6901  
Email: scsales@victrex.com

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