# Hexcel – Leader in Advanced Composites

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**Broad Range of Composite Materials and Applications**

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HexPly® M77 – a new prepreg era
M77 – Your Benefits

Extra fast curing system
2 min @150°C

High Tg
130°C

Long Shelf Life

Adhesion Properties

REACH Conform

An unmatched property mix!
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M77 resin – ski industry

Requests:

- Short cycle times – long shelf life
- Good bonding properties with metal
- Higher viscosity vs existing matrix

1 CAP Folie
2 HexPly M77*
3 PUR-core*
4 HexPly M77*
5 wood core
6 HexPly M77*
7 PE running surface
8 Steeledge

M77 = lean manufacturing

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**M77 resin – biggest benefits for ski industry**

- Traditionally short cycle system implies 1 to 5 days shelf life
- Shorter process cycle than former typical prepreg

![Graph showing M77 process vs. former typical prepreg system]

- Reduction of set up temp. by 10°C
- Nearly 20% cycle time reduction
- Demoulding at higher temperature

**M77 ~ 25% higher output, ~ 5% lower energy costs**
M77 resin: process adapted for automotive parts

- Short cure cycle: 2 min at 150°C or 1 min 30 at 160°C
- Demould in hot conditions
- Control flow even under high pressure (up to 100 bars) giving suitable with standard compression tools
- Long shelf life (6 weeks at 23°C)
- No fridge

M77 adapted for high production rate

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M77 resin: process adapted for automotive parts

Typical cure cycle

M77 cure cycle for 3mm thick part

M77 adapted for high production rate

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Mechanical performance on M77 prepreg

200gsm twill 2X2 3k carbon fabric

150 gsm unidirectional carbon tape

High mechanical performance obtained with shorter cure cycle
**Electrocoating treatment simulation**

- Simulate electrocoating treatment by measuring the flexural Modulus at 200°C

**Flexural Modulus at 200°C (Gpa)**

- Good residual stiffness at 200°C
M77 potential for automotive parts

- Mechanical performance after typical electrocoating treatment (30min at 200°C)

**Low influence of electrocoating treatment on mechanical performance**
M77 resin: potential for automotive parts

- Short time cycle
- Good mechanical properties
- Reach conform
- Long shelf life

A unique system for high production rates

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Thank You

Questions?