

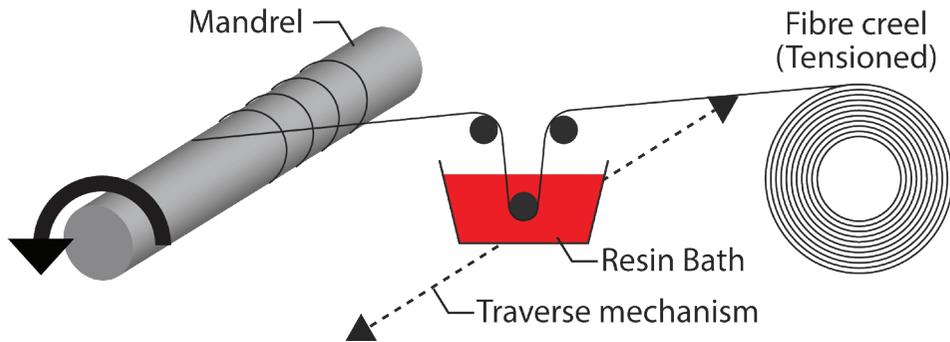


# Composites Innovation



## FWT Rim

### Filament Winding Technology



In filament winding, a continuous tow of fibers is passed through a bath of resin and wound onto a revolving mandrel by traversing longitudinally along the axis of the rotating

This results in optimal, continuous fiber placement under tension. The benefits - higher manufacturing uniformity, better performance and greater durability.

Official wheel sponsors for Team 3M



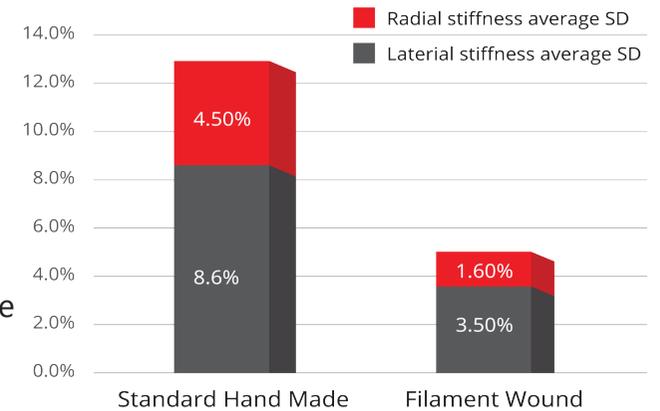
**3M**  
Team 3M  
Continental  
Cycling Team

"The wheels feel very sturdy and stable, they still seem to absorb bad roads better than the other wheels." - Team 3M

## The advantages of Venn Composites Innovation

- better quality and batch uniformity
- higher accuracy and precision
- highly automated manufacturing
- higher manufacturing speed
- better material supply
- can custom manufacture as needed
- unique

Comparison between hand made and filament wound rims performance variability - SD variation



## CTL Rim

### Continuous Tangent Layup

The carbon fiber prepreg is laid up using a special tool and process to achieve a single piece toroidal shape that matches the rim size and profile. The rim is therefore not composed of individual segments or patches. Venn CTL rims are constructed from a single piece rim specific carbon fiber prepreg preform.

Each preform follows a continuous tangential relationship to the rim's circumference thus ensuring that the forces acting on the rim are always evenly distributed across all the plies and individual carbon fibers. CTL is a very high precision process.

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# Venn wheels for rim brakes



**Rev 35 TCC tubeless clincher wheels**



**Rev 35 TUC tubular wheels**



**Alter 44 TCC tubeless clincher wheels**



**Rev 507 TCC tubeless clincher wheels**



**Rev 507 TUC tubular wheels**



**507 TCC tubeless clincher wheels**

Front wheel	Rev 35 TCC tubeless clincher wheels	Rev 35 TUC tubular wheels	Alter 44 TCC tubeless clincher wheels	Rev 507 TCC tubeless clincher wheels	Rev 507 TUC tubular wheels	507 TCC tubeless clincher wheels
Rim technology	filament wound automated construction	filament wound automated construction	continuous tangent layup technology	filament wound automated construction	filament wound automated construction	continuous tangent layup technology
Rim depth	700C 35mm	700C 35mm	700C 4.4mm	700C 50.7mm	700C 50.7mm	700C 50.7mm
Width	27mm	27mm	26mm	28mm	28mm	28mm
Hub used	Venn Rea, modular construction	Venn Rea, modular construction				
Hub width	100mm	100mm	100mm	100mm	100mm	100mm
Spokes	Pillar PSR 1422	Pillar PSR 1422				
Spoke count	20	20	20	20	20	20
Spoke length	275mm	275mm	267mm	drive 267mm	drive 267mm	drive 267mm
Nipples	Sapim®	Sapim®	Sapim®	Sapim®	Sapim®	Sapim®
External nipples	yes	yes	yes	yes	yes	yes
Lacing pattern	radial	radial	radial	radial	radial	radial
Axle compatibility	5mm QR	5mm QR				
Max. tire pressure	125psi	125psi	125psi/28mm, 80psi/32mm, 60psi/32mm+	125psi/28mm, 80psi/32mm, 60psi/32mm+	125psi/28mm, 80psi/32mm, 60psi/32mm+	125psi/28mm, 80psi/32mm, 60psi/32mm+
Parts included	rim tape, tubeless valve, brake pads	none	rim tape, tubeless valve, brake pads	rim tape, tubeless valve, brake pads	rim tape, tubeless valve, brake pads	rim tape, tubeless valve, brake pads
Weight	680±10g	560±10g	695±10g			680±10g
Rear wheel	Rev 35 TCC tubeless clincher wheels	Rev 35 TUC tubular wheels	Alter 44 TCC tubeless clincher wheels	Rev 507 TCC tubeless clincher wheels	Rev 507 TUC tubular wheels	507 TCC tubeless clincher wheels
Rim technology	filament wound automated construction	filament wound automated construction	continuous tangent layup technology	filament wound automated construction	filament wound automated construction	continuous tangent layup technology
Rim depth	700C 35mm	700C 35mm	700C 4.4mm	700C 50mm	700C 50mm	700C 50mm
Width	27mm	27mm	26mm	28mm	28mm	28mm
Hub used	Venn Rea, modular construction	Venn Rea, modular construction				
Hub width	130mm	130mm	130mm	130mm	130mm	130mm
Spokes	Pillar PSR 1422	Pillar PSR 1422				
Spoke count	24	24	24	24	24	24
Spoke length	drive 277mm, non-drive 281mm	drive 277mm, non-drive 281mm	drive 269mm, non-drive 272mm	drive 270mm, non-drive 273mm	drive 270mm, non-drive 273mm	drive 270mm, non-drive 273mm
Nipples	Sapim®	Sapim®	Sapim®	Sapim®	Sapim®	Sapim®
External nipples	yes	yes	yes	no	no	no
Lacing pattern	2 cross	2 cross				
Hub system	11 speed Shimano/SRAM/Campagnolo/XD	11 speed Shimano/SRAM/Campagnolo/XD				
Axle compatibility	5x130mm QR skewer	5x130mm QR skewer				
Max. tire pressure	125psi	125psi	125psi/28mm, 80psi/32mm, 60psi/32mm+	125psi/28mm, 80psi/32mm, 60psi/32mm+	125psi/28mm, 80psi/32mm, 60psi/32mm+	125psi/28mm, 80psi/32mm, 60psi/32mm+
Parts included	rim tape, tubeless valve, brake pads	none	rim tape, tubeless valve, brake pads	rim tape, tubeless valve, brake pads	rim tape, tubeless valve, brake pads	rim tape, tubeless valve, brake pads
Weight	830±10g	700±10g	890±10g			865±10g

# Venn wheels for disc brakes



**Rev 35 TCD tubeless clincher wheels**



**35 TUD tubular wheels**



**Alter 44 TCD tubeless clincher wheels**



**Venn Enduro 27.5 TCD tubeless clincher wheels**



**Rev 507 TCD tubeless clincher wheels**



**507 TCD tubeless clincher wheels**

Front wheel	Rev 35 TCD tubeless clincher wheels	35 TUD tubular wheels	Alter 44 TCD tubeless clincher wheels	Venn Enduro 27.5 TCD tubeless clincher wheels	Rev 507 TCD tubeless clincher wheels	507 TCD tubeless clincher wheels
Rim technology	filament wound automated construction	continuous tangent layup technology	continuous tangent layup technology	continuous tangent layup technology	filament wound automated construction	continuous tangent layup technology
Rim depth	700C 35mm	700C 35mm	700C 4.4mm	31.3mm	700C 50.7mm	700C 50.7mm
Width	27mm	27mm	26mm	27.3mm	28mm	28mm
Hub used	Venn Rea db, modular construction	Venn Rea db, modular construction	Venn Rea db, modular construction	Venn Rea db, modular construction	Venn Rea db, modular construction	Venn Rea db, modular construction
Hub width	100mm	100mm	100mm	100mm	100mm	100mm
Spokes	Pillar PSR 1422	Pillar PSR 1422	Pillar PSR 1422	Pillar PSR 1422	Pillar PSR 1422	Pillar PSR 1422
Spoke count	24	24	24	24	24	24
Spoke length	drive 282mm, non-drive 272mm	drive 282mm, non-drive 272mm	drive 273mm, non-drive 268mm	drive 269mm, non-drive 262mm		
Nipples	Sapim®	Sapim®	Sapim®	Sapim®	Sapim®	Sapim®
External nipples	yes	yes	yes	yes	yes	yes
Lacing pattern	2 cross	2 cross	2 cross	2 cross	2 cross	2 cross
Axle compatibility	12x100mm or 15x100mm or 5mm QR	12x100mm or 15x100mm or 5mm QR	12x100mm or 15x100mm or 5mm QR	12x100mm or 15x100mm or 5mm QR	12x100mm or 15x100mm or 5mm QR	12x100mm or 15x100mm or 5mm QR
Max. tire pressure	125psi/28mm, 80psi/32mm, 60psi/32mm+	125psi/28mm, 80psi/32mm, 60psi/32mm+	125psi/28mm, 80psi/32mm, 60psi/32mm+	125psi/28mm, 80psi/32mm, 60psi/32mm+	125psi/28mm, 80psi/32mm, 60psi/32mm+	125psi/28mm, 80psi/32mm, 60psi/32mm+
Parts included	rim tape, tubeless valve	none	rim tape, tubeless valve	rim tape, tubeless valve	rim tape, tubeless valve	rim tape, tubeless valve
Weight	700±10g	570±10g	720±10g	605±10g		
Rear wheel	Rev 35 TCD tubeless clincher wheels	35 TUD tubular wheels	Alter 44 TCD tubeless clincher wheels	Venn Enduro 27.5 TCD tubeless clincher wheels	Rev 507 TCD tubeless clincher wheels	507 TCD tubeless clincher wheels
Rim technology	filament wound automated construction	continuous tangent layup technology	continuous tangent layup technology	continuous tangent layup technology	filament wound automated construction	continuous tangent layup technology
Rim depth	700C 35mm	700C 35mm	700C 4.4mm	31.3mm	700C 50.7mm	700C 50.7mm
Width	27mm	27mm	26mm	27.3mm	28mm	28mm
Hub used	Venn Rea db, modular construction	Venn Rea db, modular construction	Venn Rea db, modular construction	Venn Rea db, modular construction	Venn Rea db, modular construction	Venn Rea db, modular construction
Spokes	Pillar PSR 1422	Pillar PSR 1422	Pillar PSR 1422	Pillar PSR 1422	Pillar PSR 1422	Pillar PSR 1422
Spoke count	24	24	24	24	24	24
Spoke length	drive 278mm, non-drive 279mm	drive 278mm, non-drive 279mm	drive 268mm, non-drive 270mm	drive 262mm, non-drive 264mm		
Nipples	Sapim®	Sapim®	Sapim®	Sapim®	Sapim®	Sapim®
External nipples	yes	yes	yes	yes	no	no
Lacing pattern	2 cross	2 cross	2 cross	2 cross	2 cross	2 cross
Hub system	11 speed Shimano/SRAM/Campagnolo/XD	11 speed Shimano/SRAM/Campagnolo/XD	11 speed Shimano/SRAM/Campagnolo/XD	11 speed Shimano/SRAM/Campagnolo/XD	11 speed Shimano/SRAM/Campagnolo/XD	11 speed Shimano/SRAM/Campagnolo/XD
Axle compatibility	12x142mm or 12x135mm or 5x135QR	12x142mm or 12x135mm or 5x135QR	12x142mm or 12x135mm or 5x135QR	12x142mm or 12x135mm or 5x135QR	12x142mm or 12x135mm or 5x135QR	12x142mm or 12x135mm or 5x135QR
Max. tire pressure	125psi/28mm, 80psi/32mm, 60psi/32mm+	125psi/28mm, 80psi/32mm, 60psi/32mm+	125psi/28mm, 80psi/32mm, 60psi/32mm+	125psi/28mm, 80psi/32mm, 60psi/32mm+	125psi/28mm, 80psi/32mm, 60psi/32mm+	125psi/28mm, 80psi/32mm, 60psi/32mm+
Parts included	rim tape, tubeless valve	none	rim tape, tubeless valve	rim tape, tubeless valve	rim tape, tubeless valve	rim tape, tubeless valve
Weight	800±10g	690±10g	825±10g	720±10g		