

» PRODUCT OVERVIEW & SELECTION GUIDE

# GRIDCORE™

COMPOSITE UTILITY POLES



## INTRODUCING GRIDCORE™ COMPOSITE UTILITY POLES FOR ELECTRIC POWER DISTRIBUTION

GridCore™ Composite Utility poles from Avient are engineered to enhance grid resilience as a superior alternative to wood, steel, or concrete poles. Compared to traditional materials, fiber reinforced polymer (FRP) composites are more durable, require less maintenance, and provide a longer service life. They are also significantly lighter in weight, allowing for safer and simplified installation.

### GRIDCORE™ POLE TIP DEFLECTION UNDER WOOD POLE-EQUIVALENT ALLOWABLE CLASS LOADS<sup>1</sup> (IN)

Pole Class	Pole Length (ft)								
	40	45	50	55	60	65	70	75	80
C4	13	20	27	37	49	63			
C3	17	24	34	47	61	79	100	124	152
C2	21	30	42	57	76	61	77	96	118
C1	25	37	32	44	58	74	94	117	143
H1	19	28	39	52	69	89	113	140	172
H2	22	33	46	62	82	106	134		
H3	26	38	54	73	96				

### POLE TIP DEFLECTION COMPARISONS: GRIDCORE™ POLES VS. SOUTHERN YELLOW PINE

Pole Class	Pole Length (ft)								
	40	45	50	55	60	65	70	75	80
C4	35%	40%	45%	50%	55%	60%			
C3	48%	55%	61%	68%	75%	81%	88%	95%	101%
C2	64%	73%	82%	91%	100%	68%	74%	79%	85%
C1	84%	96%	67%	75%	82%	90%	97%	104%	112%
H1	68%	77%	87%	96%	106%	115%	125%	134%	144%
H2	86%	98%	110%	122%	134%	146%	158%		
H3	107%	122%	137%	152%	167%				

<sup>1</sup> Tip deflection is calculated at wood pole-equivalent allowable class load based on ANSI O5.1 and NESC Grade B construction strength factor of 0.65. Standard pole setting depth is 10% of pole length plus 2ft. Selections of Gridcore™ composite poles are typically deflection-controlled. We recommend limiting the maximum tip deflection to no greater than 10% higher than that of a wood pole (Southern Yellow Pine). For details, please contact Avient.

<sup>2</sup> All Gridcore poles listed in this table are of single-piece construction with a non-tapered cylindrical cross-section of 14 inch outer diameter.

Highlighted cells represent circumstances in which Gridcore pole strength satisfies wood pole-equivalent class load (allowable, Gr. B) but deflection of FRP pole may be greater than wood pole under the same load. All calculated pole deflections are average values per ANSI O5.1-2022. Wood poles are a natural material with wide variations in deflections. Many wood poles will deflect substantially more than the stated average deflection. Gridcore™ composite poles, on the other hand, are an engineered product and have more consistent deflection properties.

## GRIDCORE™ POLE WEIGHT (LB)

Pole Class	Pole Length (ft)								
	40	45	50	55	60	65	70	75	80
C4	707	795	884	972	1060	1149			
C3	707	795	884	972	1060	1149	1237	1325	1414
C2	707	795	884	972	1060	1691	1821	1951	2081
C1	707	795	1301	1431	1561	1691	1821	1951	2081
H1	1041	1171	1301	1431	1561	1691	1821	1951	2081
H2	1041	1171	1301	1431	1561	1691	1821		
H3	1041	1171	1301	1431	1561				

## POLE WEIGHT COMPARISONS: GRIDCORE™ POLES VS. SOUTHERN YELLOW PINE

Pole Class	Pole Length (ft)								
	40	45	50	55	60	65	70	75	80
C4	61%	57%	54%	52%	49%	47%			
C3	52%	49%	46%	44%	42%	40%	39%	37%	36%
C2	45%	42%	40%	38%	36%	51%	49%	48%	46%
C1	39%	37%	51%	49%	47%	45%	43%	42%	40%
H1	51%	48%	45%	43%	41%	39%	38%	37%	35%
H2	45%	42%	40%	38%	37%	35%	34%		
H3	40%	38%	36%	34%	33%				

## GRIDCORE™ CATALOG NUMBERS<sup>2</sup>

Pole Class	Pole Length (ft)								
	40	45	50	55	60	65	70	75	80
C4	X34B-DG-40C4	X34B-DG-45C4	X34B-DG-50C4	X34B-DG-55C4	X34B-DG-60C4	X34B-DG-65C4			
C3	X34B-DG-40C3	X34B-DG-45C3	X34B-DG-50C3	X34B-DG-55C3	X34B-DG-60C3	X34B-DG-65C3	X34B-DG-70C3	X34B-DG-75C3	X34B-DG-80C3
C2	X34B-DG-40C2	X34B-DG-45C2	X34B-DG-50C2	X34B-DG-55C2	X34B-DG-60C2	X34A-DG-65C2	X34A-DG-70C2	X34A-DG-75C2	X34A-DG-80C2
C1	X34B-DG-40C1	X34B-DG-45C1	X34A-DG-50C1	X34A-DG-55C1	X34A-DG-60C1	X34A-DG-65C1	X34A-DG-70C1	X34A-DG-75C1	X34A-DG-80C1
H1	X34A-DG-40H1	X34A-DG-45H1	X34A-DG-50H1	X34A-DG-55H1	X34A-DG-60H1	X34A-DG-65H1	X34A-DG-70H1	X34A-DG-75H1	X34A-DG-80H1
H2	X34A-DG-40H2	X34A-DG-45H2	X34A-DG-50H2	X34A-DG-55H2	X34A-DG-60H2	X34A-DG-65H2	X34A-DG-70H2		
H3	X34A-DG-40H3	X34A-DG-45H3	X34A-DG-50H3	X34A-DG-55H3	X34A-DG-60H3				

# KEY PERFORMANCE ADVANTAGES



## Lower Total System and Lifecycle Cost

GridCore Composite Poles have an expected service life of up to 80 years, compared to 30-40 years for wood poles. Considering the cost of replacing aged, damaged, and failed poles, the longer lifespan of an FRP pole results in total cost savings over the life of the pole.



## Lightweight and Safer Installation

GridCore poles are significantly lighter than equivalent wood and concrete poles and can be installed using light-duty equipment and without expensive cranes. The poles have excellent dielectric strength that allows for safer installation near energized lines.



## Lower Maintenance and Resistant to Pests

Also contributing to lower lifecycle cost, composite poles require only visual inspection and are not susceptible to damage from woodpeckers and insects, reducing maintenance and repair costs. Superficial damage can often be repaired on-site, using recommended products and procedures available from Avient.



## No Assembly Required

GridCore pultruded composite poles are fully fabricated as one-piece, uniform diameter, requiring only one size through-bolt length, saving assembly labor in the field, and reducing outage time.



## Customized and Consistent Material

Manufactured in a continuous pultrusion process, GridCore poles are engineered for consistent strength and uniform appearance and are not subject to warping, shrinkage, or splintering. Unlike wood they can withstand strong storms without breaking.



## Simple to Drill

GridCore poles can be purchased pre-drilled, and they can easily be field drilled using a handheld cordless drill and recommended bits.

**For the latest product information, please visit [gridcore.avient.com](https://gridcore.avient.com) or call +1.844.4AVIENT.**



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