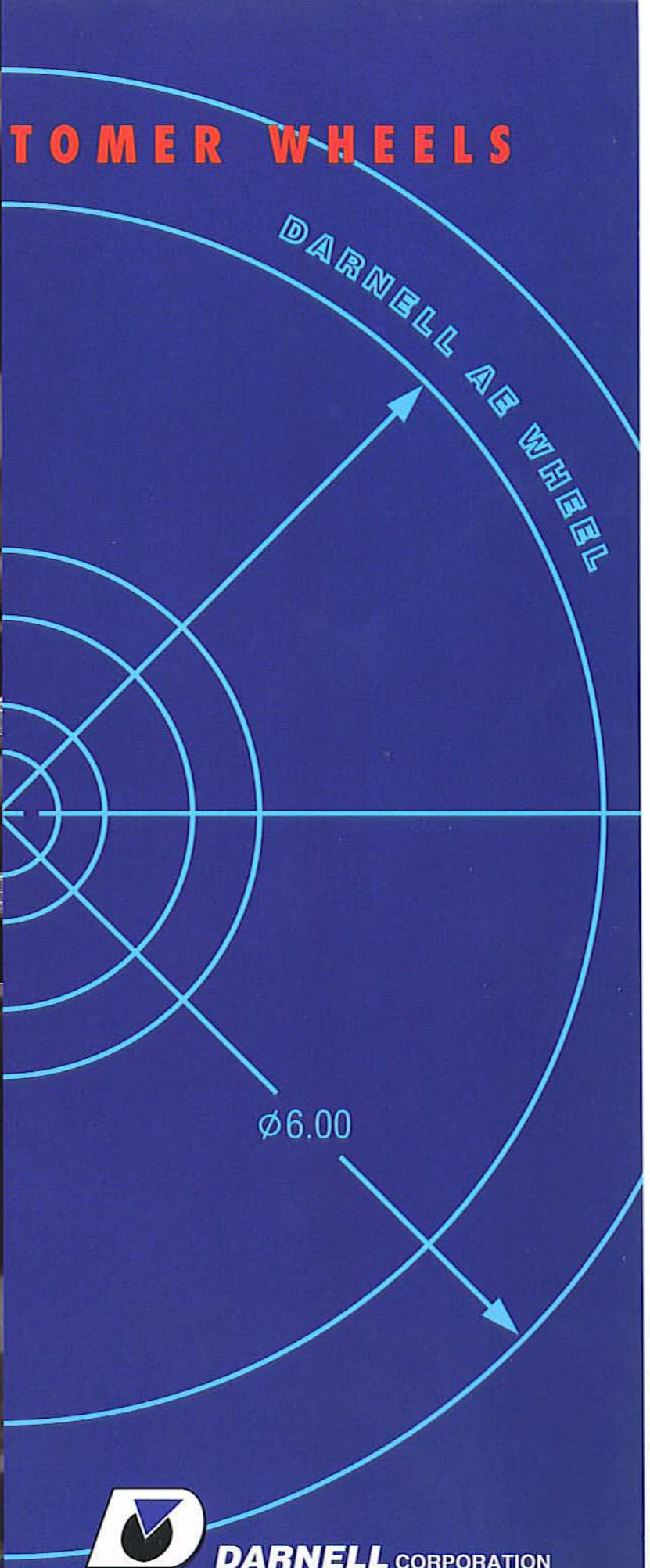


ADVANCED ELASTOMER WHEELS



60

70

80/A100



DARNELL CORPORATION



How Darnell Created the Perfect Caster Wheel



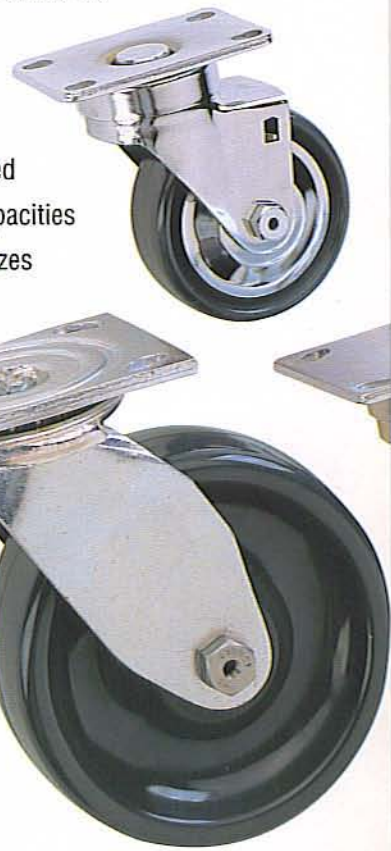
Founded in 1921 as the *Perfect Manufacturing Company*, Darnell casters have long been recognized for their superior quality and exceptional performance. This quest for perfection is manifested once again in our new line of **ADVANCED ELASTOMER** wheels. To create the “perfect caster wheel,” we spent two years developing a custom compounded urethane elastomer that offers the highest abrasion resistance, maximum impact strength, and lowest rolling resistance. The result is a wheel which is easy to roll under the heaviest loads, and guaranteed to outlast and outperform metal, rubber, plastic, phenolic, and even conventional solid urethane wheels. AE wheels resist nearly all chemicals, greases, oils, solvents, fuel oils, and other compounds which attack most molded plastic or common rubber wheels. And since the AE wheel is a completely solid elastomer, **there is never a possibility of tread separation** caused by bond failure between wheel tread and core.

Our unique symmetrical hub design allows the AE wheel to withstand severe impact generated by extreme shock loading. It will not chip, crack, or “chunk out” like most polyolefin or phenolic wheels, nor

will it “flat spot” under normal loads and temperatures. Good heat and cold resistance allows maximum performance within a wide temperature range. These qualities make the AE wheel the “Perfect Caster Wheel” in tough, demanding environments.

AE wheels are offered in the three most popular series Darnell casters, both in zinc plated steel or corrosion-free **stainless steel**. Load capacities range from 400 lbs to 1,200 lbs per caster, in sizes from 3-inch to 8-inch wheel diameters, and with four different types of wheel bearings, including maintenance free sealed precision bearings (70 series and A100 series). No other caster offers more choice or selection.

In keeping with tradition, Darnell has created a perfect match: the original quality of the perfect Darnell caster, combined with our new Advanced Elastomer wheel—the “perfect way” to keep your equipment rolling under the most demanding conditions.



Elastomer Properties

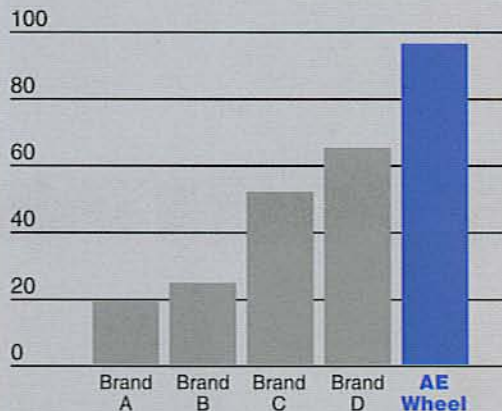
Hardness	65-68 Shore D
Tensile Strength	5,000 psi
Modulus, 100%	4,000 psi
Compression set (22 hrs, 158°F)	51%
Impact resistance (notched izod)	5.71 ft lbs/in
Split tear, D-470	110 pli
Elongation (% at break point)	250%
Temp range (continuous)	-50°F to +212°F
Specific gravity	1.17

Major Characteristics

- High impact strength.
- Excellent abrasion resistance.
- Good heat resistance at elevated temperatures.
- Excellent fuel, oil, and chemical resistance.
- Low rolling resistance under maximum load.
- No flat spotting under normal load and temperature.

Endurance Test

Comparative Results



Test procedure: 3 1/2" x 1 1/4" wheel loaded to 400 lbs on a rolling drum tester with 1/8" obstacle bar at 3 mph.

Solid AE wheel eliminates tread separation caused by bond failure.

Symmetrical hub is stronger to withstand severe impact from shock loading.

Choice of four wheel bearings, including maintenance free sealed precision bearing (shown at right)

Bearing options:



Custom compounded urethane elastomer rolls easier, lasts longer under loads up to 1,200 lbs per caster.



Wheels

Diameter	Tread Width	Hub Length	Bearing	Bore	Load Capacity	Part Number	SERIES USED IN
3"	1 1/4"	1 7/16"	Delrin	3/8"	400 lbs	D-63-WAE	60
3"	1 1/4"	1 7/16"	Ball	3/8"	400 lbs	X-63-WAE	60
3"	2"	2 3/16"	Delrin	1/2"	900 lbs	D-103-WAE	80
3"	2"	2 3/16"	Ball	1/2"	900 lbs	X-103-WAE	80
3"	2"	2 3/16"	Roller	1/2"	900 lbs	T-103-WAE	80
3"	2"	2 3/16"	Precision Ball	1/2"	900 lbs	PX-103-WAE	80
3 1/2"	1 1/4"	1 7/16"	Delrin	3/8"	400 lbs	D-63 1/2-WAE	60
3 1/2"	1 1/4"	1 7/16"	Ball	3/8"	400 lbs	X-63 1/2-WAE	60
4"	1 1/4"	1 7/16"	Delrin	3/8"	400 lbs	D-64-WAE	60
4"	1 1/4"	1 7/16"	Ball	3/8"	400 lbs	X-64-WAE	60
4"	1 3/8"	1 3/4"	Roller	3/8"-1/2"	600 lbs	T-74-WAE	70
4"	1 3/8"	1 3/4"	Precision Ball	3/8"-1/2"	600 lbs	PX-74-WAE	70
4"	2"	2 3/16"	Delrin	1/2"	1000 lbs	D-104-WAE	A100
4"	2"	2 3/16"	Ball	1/2"	1000 lbs	X-104-WAE	A100
4"	2"	2 3/16"	Roller	1/2"	1000 lbs	T-104-WAE	A100
4"	2"	2 3/16"	Precision Ball	1/2"	1000 lbs	PX-104-WAE	A100
5"	1 1/4"	1 7/16"	Delrin	3/8"	400 lbs	D-65-WAE	60
5"	1 1/4"	1 7/16"	Ball	3/8"	400 lbs	X-65-WAE	60
5"	1 3/8"	1 3/4"	Roller	3/8"-1/2"	700 lbs	T-75-WAE	70
5"	1 3/8"	1 3/4"	Precision Ball	3/8"-1/2"	700 lbs	PX-75-WAE	70
5"	2"	2 3/16"	Delrin	1/2"	1000 lbs	D-105-WAE	A100
5"	2"	2 3/16"	Ball	1/2"	1000 lbs	X-105-WAE	A100
5"	2"	2 3/16"	Roller	1/2"	1000 lbs	T-105-WAE	A100
5"	2"	2 3/16"	Precision Ball	1/2"	1000 lbs	PX-105-WAE	A100
6"	1 3/8"	1 3/4"	Roller	3/8"-1/2"	750 lbs	T-76-WAE	70
6"	1 3/8"	1 3/4"	Precision Ball	3/8"-1/2"	750 lbs	PX-76-WAE	70
6"	2"	2 3/16"	Delrin	1/2"	1100 lbs	D-106-WAE	A100
6"	2"	2 3/16"	Ball	1/2"	1100 lbs	X-106-WAE	A100
6"	2"	2 3/16"	Roller	1/2"	1100 lbs	T-106-WAE	A100
6"	2"	2 3/16"	Precision Ball	1/2"	1100 lbs	PX-106-WAE	A100
8"	2"	2 3/16"	Delrin	1/2"	1200 lbs	D-88-WAE	A100
8"	2"	2 3/16"	Ball	1/2"	1200 lbs	X-88-WAE	A100
8"	2"	2 3/16"	Roller	1/2"	1200 lbs	T-88-WAE	A100
8"	2"	2 3/16"	Precision Ball	1/2"	1200 lbs	PX-88-WAE	A100



Casters

60 Series



Diameter	Tread Width	Load Capacity	Bearing	Swivel Part Number	Rigid Part Number	Approx Weight	Overall Height	Swivel Radius
3"	1 1/4"	400 lbs	Delrin	20-63-DAE*	20-63-DRAE*	2.25 lbs	4 5/16"	2 3/4"
3"	1 1/4"	400 lbs	Ball	20-63-XAE*	20-63-XRAE*	2.25 lbs	4 5/16"	2 3/4"
3 1/2"	1 1/4"	400 lbs	Delrin	20-63 1/2-DAE*	20-63 1/2-DRAE*	3.25 lbs	4 3/4"	3"
3 1/2"	1 1/4"	400 lbs	Ball	20-63 1/2-XAE*	20-63 1/2-XRAE*	3.25 lbs	4 3/4"	3"
4"	1 1/4"	400 lbs	Delrin	20-64-DAE*	20-64-DRAE*	2.50 lbs	5 1/4"	3 3/4"
4"	1 1/4"	400 lbs	Ball	20-64-XAE*	20-64-XRAE*	2.50 lbs	5 1/4"	3 3/4"
5"	1 1/4"	400 lbs	Delrin	20-65-DAE*	20-65-DRAE*	3.50 lbs	6 1/4"	4 3/4"
5"	1 1/4"	400 lbs	Ball	20-65-XAE*	20-65-XRAE*	3.50 lbs	6 1/4"	4 3/4"

Thread guards standard.

* Available in stainless steel. To specify when ordering, add the suffix -SS to the Part Number. For example: 20-63-DAE-SS

70 Series



Diameter	Tread Width	Load Capacity	Bearing	Swivel Part Number	Rigid Part Number	Approx Weight	Overall Height	Swivel Radius
4"	1 5/8"	600 lbs	Roller	24-74-TAE	24-74-TRAE	3.50 lbs	5 7/16"	3 3/8"
4"	1 5/8"	600 lbs	Precision Ball	24-74-PXAE	24-74-PXRAE	3.50 lbs	5 7/16"	3 3/8"
5"	1 5/8"	600 lbs	Roller	24-75-TAE	24-75-TRAE	4 lbs	6 7/16"	3 7/8"
5"	1 5/8"	600 lbs	Precision Ball	24-75-PXAE	24-75-PXRAE	4 lbs	6 7/16"	3 7/8"
6"	1 5/8"	600 lbs	Roller	24-76-TAE	24-76-TRAE	5 lbs	7 7/16"	4 5/8"
6"	1 5/8"	600 lbs	Precision Ball	24-76-PXAE	24-76-PXRAE	5 lbs	7 7/16"	4 5/8"

Thread guards standard.

80 Series/A100 Series



Diameter	Tread Width	Load Capacity	Bearing	Swivel Part Number	Rigid Part Number	Approx Weight	Overall Height	Swivel Radius
3"	2"	900 lbs	Delrin	24-83-DAE	24-83-DRAE	5 lbs	4 5/8"	2 5/8"
3"	2"	900 lbs	Ball	24-83-XAE	24-83-XRAE	5 lbs	4 5/8"	2 5/8"
3"	2"	900 lbs	Roller	24-83-TAE	24-83-TRAE	5 lbs	4 5/8"	2 5/8"
3"	2"	900 lbs	Precision Ball	24-83-PXAE	24-83-PXRAE	5 lbs	4 5/8"	2 5/8"
4"	2"	1000 lbs	Delrin	A104-DAE*	A104-DRAE*	6.5 lbs	5 5/8"	3 3/16"
4"	2"	1000 lbs	Ball	A104-XAE*	A104-XRAE*	6.5 lbs	5 5/8"	3 3/16"
4"	2"	1000 lbs	Roller	A104-TAE	A104-TRAE	6.5 lbs	5 5/8"	3 3/16"
4"	2"	1000 lbs	Precision Ball	A104-PXAE	A104-PXRAE	6.5 lbs	5 5/8"	3 3/16"
5"	2"	1000 lbs	Delrin	A105-DAE*	A105-DRAE*	7 lbs	6 1/2"	4 1/4"
5"	2"	1000 lbs	Ball	A105-XAE*	A105-XRAE*	7 lbs	6 1/2"	4 1/4"
5"	2"	1000 lbs	Roller	A105-TAE	A105-TRAE	7 lbs	6 1/2"	4 1/4"
5"	2"	1000 lbs	Precision Ball	A105-PXAE	A105-PXRAE	7 lbs	6 1/2"	4 1/4"
6"	2"	1000 lbs	Delrin	A106-DAE*	A106-DRAE*	7.75 lbs	7 1/2"	5"
6"	2"	1000 lbs	Ball	A106-XAE*	A106-XRAE*	7.75 lbs	7 1/2"	5"
6"	2"	1000 lbs	Roller	A106-TAE	A106-TRAE	7.75 lbs	7 1/2"	5"
6"	2"	1000 lbs	Precision Ball	A106-PXAE	A106-PXRAE	7.75 lbs	7 1/2"	5"
8"	2"	1200 lbs	Delrin	A108-DAE*	A108-DRAE*	9.5 lbs	9 1/2"	6 1/8"
8"	2"	1200 lbs	Ball	A108-XAE*	A108-XRAE*	9.5 lbs	9 1/2"	6 1/8"
8"	2"	1200 lbs	Roller	A108-TAE	A108-TRAE	9.5 lbs	9 1/2"	6 1/8"
8"	2"	1200 lbs	Precision Ball	A108-PXAE	A108-PXRAE	9.5 lbs	9 1/2"	6 1/8"

Thread guards optional.

* Available in stainless steel. To specify when ordering, add the suffix -SS to the Part Number. For example: A104-DAE-SS

Available Options: Wheel Brakes ■ Swivel Lock ■ Combination Brakes ■ Threaded Stems
 ■ Round or Square Stems ■ Powder Coating ■ Maintenance Free Swivel



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