



LinkedIn <https://www.linkedin.com/company/northwest-die-casting>
Twitter <https://twitter.com/nwdiecasting>
Facebook <https://www.facebook.com/pages/Northwest-Die-Casting/128364643976228>
Google + <https://plus.google.com/114839509388480447509/about>
Youtube <https://www.youtube.com/user/nwdiecasting>

Characteristics Of Common Die Cast Alloys

AL Alloy	Die Filling Capacity	Pressure Tightness	Resistance to Hot Cracking	Anti-Soldering to the die	Corrosion Resistance	Machine-ability	Polish Ability	Electro Plating
A380	B	B	B	A	C-	C	B	B
A384	A	B	B	A	C-	C	B-	B
A360	A	A	A	B	B	C	C	A
A369	A	B	B	B	A	C	C	B

AL Alloy	Anodizing (Appearance)	Chemical Oxide (Protection)	Strength At Elevated Temp.	Weldability	Brazability
A380	C	D	B	No	No
A384	E	D	B	No	No
A360	C	C	B	No	No
A369	D	C	A	Yes	No

1. On a scale from A-E, with A being most desirable and E being the least desirable.



LinkedIn <https://www.linkedin.com/company/northwest-die-casting>
Twitter <https://twitter.com/nwdiecasting>
Facebook <https://www.facebook.com/pages/Northwest-Die-Casting/128364643976228>
Google + <https://plus.google.com/114839509388480447509/about>
Youtube <https://www.youtube.com/user/nwdiecasting>

Typical Mechanical Properties (As Cast)	Typical Physical Properties
--	------------------------------------

AL Alloy	Tensile Strength lbs./sq. in. (km)	Yield Strength (.2% offset) lbs./sq.in	Elongation % IN 2 in.	Brinell 500 Kg. Load 10mm Ball	Approx Melting Range °F	Density lb. per cu. In.	Average Coefficient of Thermal Expansion (88-212 °F)	Electrical Conductivity	Thermal Conductivity CGS.
A380	47,000 (47)	23,000 (23)	3.5	80	970-1090	0.102	11.8	27	0.26
A384	48,000 (48)	24,000 (24)	2.5	85	960-1080	0.1	11.5	23	0.23
A360	46,000 (46)	24,000 (24)	3.5	80	1035-1105	0.095	11.6	37	35
A369	47,000 (47)	28,000 (28)	7	80	1040-1120	0.095	12	30	0.29

1. Per degree Fahrenheit. Figures to be multiplied by .000001.
2. Electrical Conductivity as percent of international Annealed Copper Standard.
3. Thermal Conductivity as calories per second per centimeter cubed per degree centigrade.



LinkedIn <https://www.linkedin.com/company/northwest-die-casting>
Twitter <https://twitter.com/nwdiecasting>
Facebook <https://www.facebook.com/pages/Northwest-Die-Casting/128364643976228>
Google + <https://plus.google.com/114839509388480447509/about>
Youtube <https://www.youtube.com/user/nwdiecasting>

Chemical Composition Percent

AL Alloy	Si	Fe	Cu	Mn	Mg	Ni	Zn	Sn	Total
A380	7.5-9.5	1.0	3.0-4.0	.50	0.1	0.5	2.9	.35	.50
	7.5-9.5	1.3	3.0-4.0	.50			3.0	.35	.50
A384	10.5-12.0	1.0	3.0-4.5	.50	.10	0.5	.9	.35	.50
		1.3	3.0-4.5	.50	.10		1.0	.35	.50
A360	10.5-12.0	1.0	.60	.35	.45-.6	.50	.40	.15	.25
	10.5-12.0	1.3	.60	.35	.40-.6	.50	.50	.15	.25
A369	11.0-12.0	.40-1.0	.50	.35	.30-.40	.05	.9	.10	.25
	11.0-12.0	.40-1.3	.50	.35	.30-.40	.05	1.00	.10	.25

*All single values are maximum percentages.



LinkedIn <https://www.linkedin.com/company/northwest-die-casting>
Twitter <https://twitter.com/nwdiecasting>
Facebook <https://www.facebook.com/pages/Northwest-Die-Casting/128364643976228>
Google + <https://plus.google.com/114839509388480447509/about>
Youtube <https://www.youtube.com/user/nwdiecasting>

Similar Specifications						
AL Alloy	Federal QQ-A-371F	ASTM (Former Designation)	Former SAE (ANSI) 1989	Chrysler Corp.	Ford Motors	General Motors
A380	A380.1, A380.0, 380.0	A380.1, A380.0, 380.0 (SC84A-B)	306 (A3801) 308 (380.1)	MS-2410-D MS 3495	M-2A33 M-2A16-A	GM 4199-M
A384	384.1 384.0	384.1 384.0 (SC114A)	303 (384.1)	MS 2410-A	x	x
A360	A360.1 A360.0, 360.0	A360.1 A360.0, 360.0 (SG100A-8)	309 (A360.1)	x	x	x
A369	x	x	x	x	x	x

1. Aluminum Association Alloy Designations, January, 1989 and ANSI, 1989
2. November 22, 1971 superseding QQ-A-371E, August 24th 1965
3. January 19, 1981 superseding QQ-A-591E, March 28, 1973
4. ASTM Designation - Refer to B179-86 and B 85-84
5. U.S. Patent No 3,726,672