



Superior Heat Resistance

Lengthy exposure to temperatures up to 450°C causes very little change in ALCOT® and does not affect its attractive surface brightness, compared with galvanized steel sheet and cold rolled steel sheet.



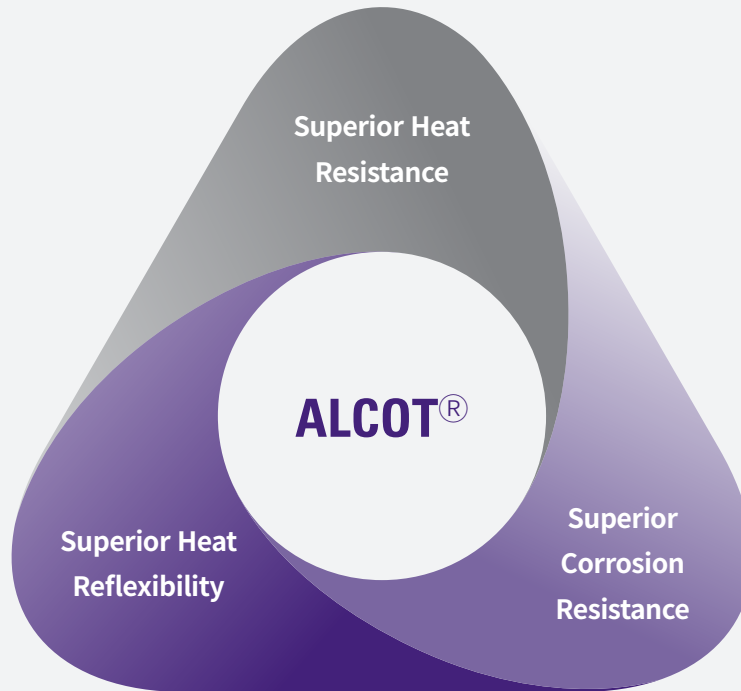
Superior Heat Reflexibility

The highly elegant surface of ALCOT® reflects about 80% of the heat at a temperature of 450°C. Its reflection rate goes up to 95% where infrared rays are present. This makes ALCOT® the ideal choice for producing the heat reflector plates in toasters, ovens, gas ranges and oil stoves.



Superior Corrosion Resistance

Because the aluminum easily forms a fine oxide film when exposed to air, ALCOT® has an excellent corrosion resistance. The aluminum, as a sacrificial anode, protects the steel from the corrosion in saltwater.



Superior Heat Resistance

Heat Resistance Test Results

Test conditions : Naked eye comparison the sheet after two rounds of test procedures (Heating (1.5 Hr), maintaining (5 Hr), cooling (17 Hr))

	300°C	350°C	400°C	450°C	500°C	550°C	600°C
ALCOT®	○	○	○	○	△	△	X
SuperGalum®	○	○	○	△	△ ~ X	X	X
GI	△	△ ~ X	X	X	X	X	X

○: No change, △: Luster down, X: Tums blackish

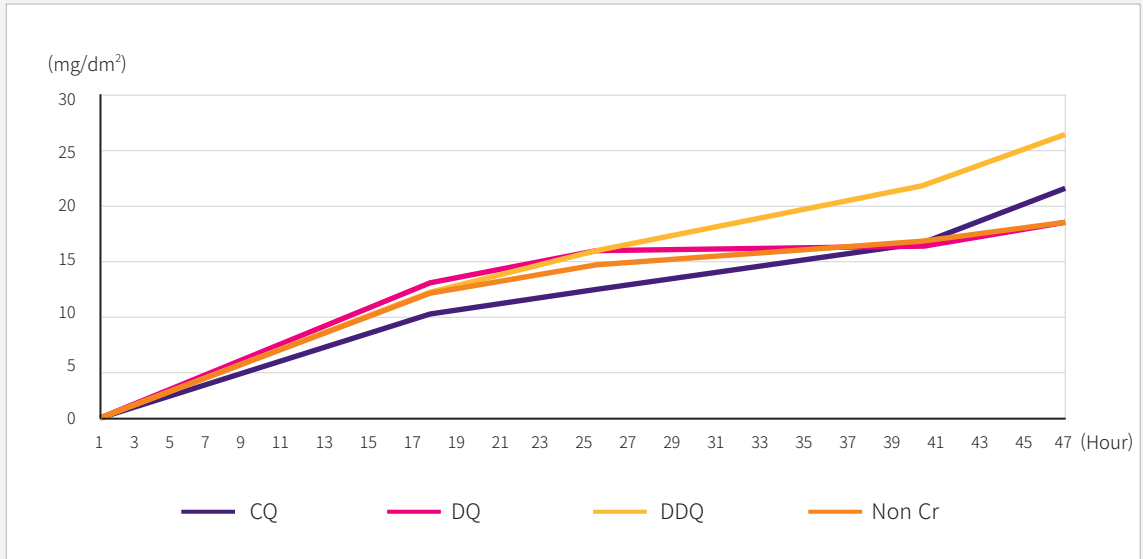
Heat Resistant Equipment using ALCOT® steel

When heated, an oxide film is formed on the surface as the alloy layer is activated, protecting its surface.



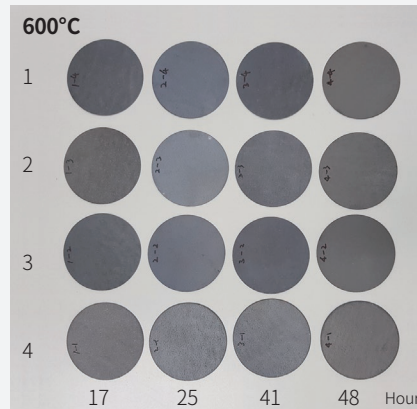
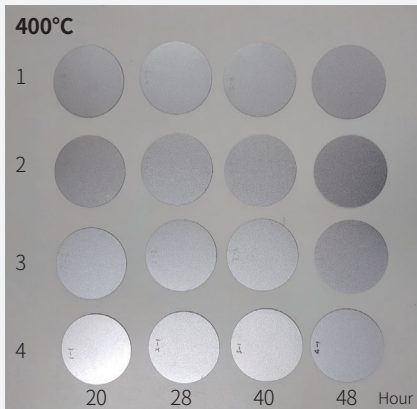
Measurement of oxidation weight by steel grade

- No change in weight when heated at 400°C for 48 hours.
- Following oxidation weight observed when heated at 600°C for 48 hours.



Surface color change

- At 400°C, no change in surface color.
- At 600°C, the surface color turns black due to overalloy.



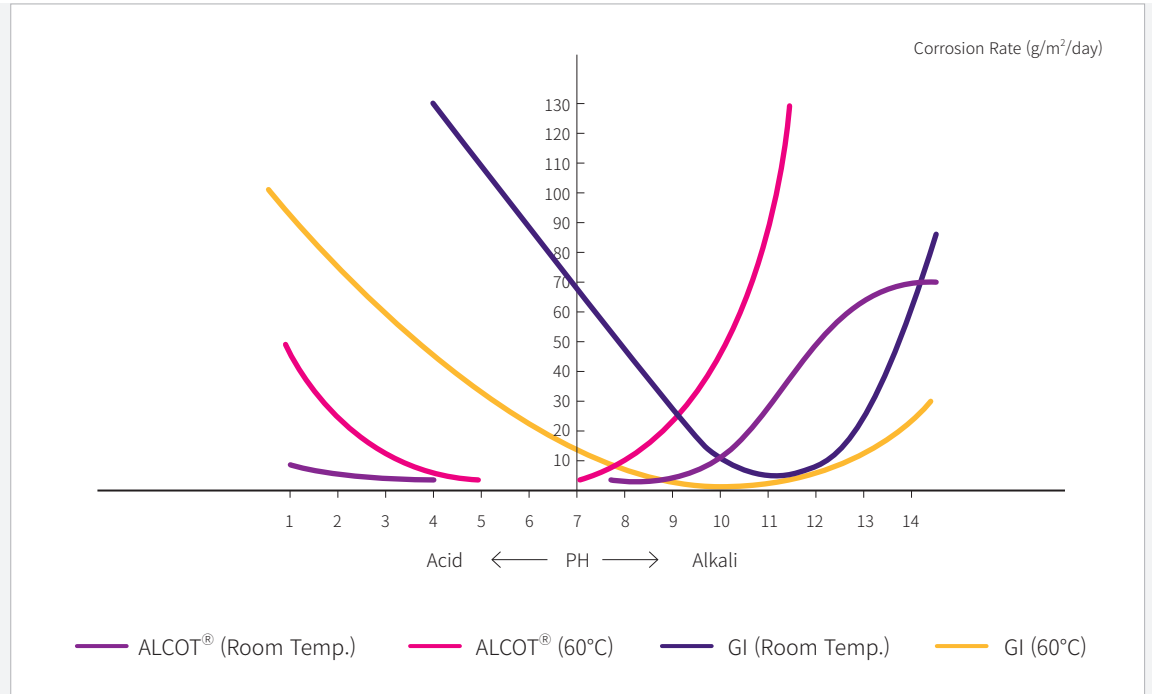
- 1 : CQ
- 2 : DQ
- 3 : DDQ
- 4 : Non Cr

Superior Heat Reflectivity

Heat Reflectivity

Classification	ALCOT®	GI
100°CX 24hr	80%	80%
450°CX 24hr	80%	15%

Superior Corrosion Resistance

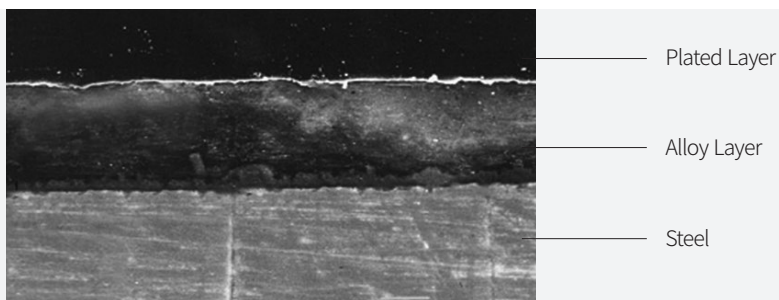


Coating Layers

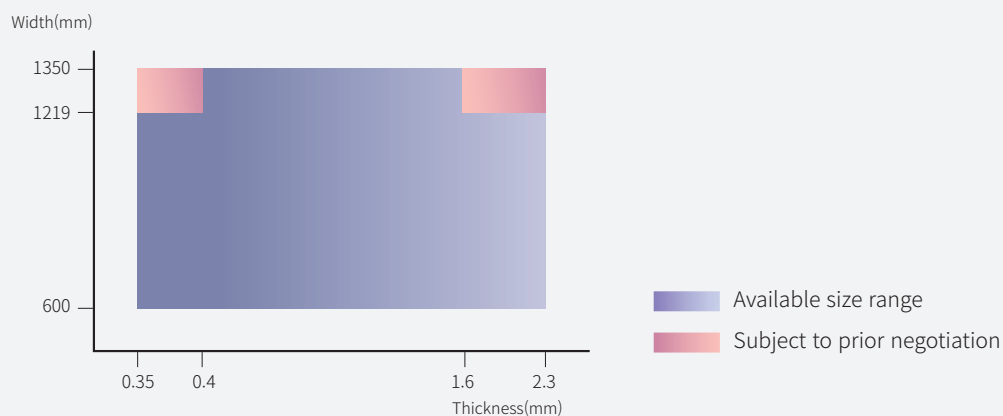
Types of ALCOT® steel sheet are categorized by the components of the molten pot. Applications are as follows.

Classification	Type I Aluminized (Can be produced by KG Dongbu Steel)	Type II Aluminized
Components of the molten pot	Al-Si(8~10%)	Al
Components of the alloy layer	<p>Al-Si Al-Fe-Si Fe</p>	<p>Al Fe₂Al₅ Fe</p>
Application	Heat Resistance Treatment	Weather Resistance (Construction material)

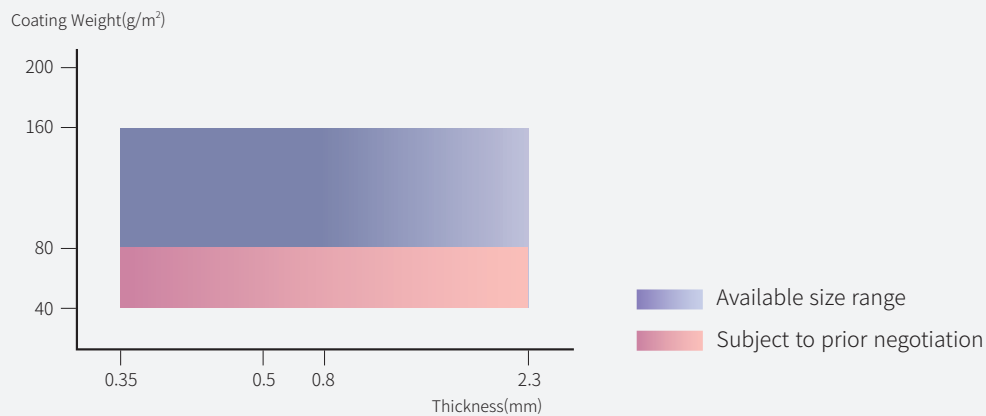
Cross section of ALCOT® steel sheet of the coated layers



Size Availability



Size Availability by Coating Weight



Post-Treatment

Chromated	Oiled	Chromated & Oiled	No Treatment	Non-Cr
○	○	○	○	○
* Chromating - Average : 9mg/m ² (One side) - Range : 6 ~ 11mg/m ² (One side)	* Oiling - Slightly : 500 ~ 800mg/m ² (Both side) - Normal : 1,000 ~ 1,400mg/m ² (Both side) - Heavy : 1,400 ~ 2,000mg/m ² (Both side)	* Non-Cr - Average : 250 ~ 400mg/m ² (t≤1.4)		

Grade and Symbol

	KS D3544 / JIS G3314	ASTM A 463	ASTM A 463-463M	EN 10346
CQ	SA1C	CQ	CS TYPE A	DX51D
			CS TYPE B	DX52D
			CS TYPE C	
DQ1		ADQ	-	DX53D
DQ2	SA1D	DQ	FS	DX54D
			DDS	
DQ3	SA1E	DQSK	EDDS	DX56D
Grade A	SAC31		Grade230	S220GD
Grade B	SAC35	SQ-B	Grade225	S250GD
				S280GD
Grade C	SAC41	SQ-C	Grade275	S320GD
Grade D	SAC45	SQ-D	Grade340 Class1	S350GD
			Grade340 Class2	
			Grade340 Class3	
Grade E	-	-	Grade550	S550GD

Mechanical Properties

Classification	Symbol	Tensile Strength (kgf/mm ²) Thickness(mm)	Yield point (kgf/mm ²) Thickness(mm)		Elongation(%) Thickness(mm)				
			t≤0.5	0.5<t	t≤0.5	0.5<t≤1.2	1.2<t		
			Commercial	1-C	CQ	SA1C, CQ			
Quality (Type 1)	1-L	CQ	SA1L, CQ-L	(40) ↓	30	30	32	36	38
	1-N	CQ-N	SA1C-N	-	-	-	-	-	-
Drawing Quality (Type 1)	3-A	DQ1	SA1D-A, ADQ	28	26	25	34	36	38
	3-D	DQ2	SA4D, DQ	28	24	23	36	38	40
	3-E	DQ3	SA1E, DQSK	28	21	20	38	40	42
	(3-S)	(EDDQ)	(SA1E-S, EDDQ)	(26)	19	18	40	42	44
Structural Quality (Type 1)	4-A	Grade A	SAC31, SQ-A	31~35	21	21	20	20	20
	4-B	Grade B	SAC35, S-B	35~48	25	25	20	20	20
	4-C	Grade C	SAC41, SQ-C	41~52	30	30	18	18	18
	4-D	Grade D	SAC45, SQ-D	45~56	37	37	18	18	18

※ There may be some differences by standard (the table is based on our management).

Applications

Automotive Components	Muffler, Exhaust Pipes
Home Appliances	Electric stove, Gas range, Bread machine, Electric stove, Toaster, Frying pan, Dryer
Heating Equipment	Heat exchanger, Stovepipe, Pre-heater, Dryer, Duct
Construction	Wall and roof of chemical factories, Fireproof wall
Other	Steam cover, Other chemical equipments