

ADDENDUM TO 2018 EDITION OF YELLOW SHEETS
Tempers for Aluminum and Aluminum Alloy Products

July 16, 2025

New and Revised Registrations Since Publication of 2018 Edition of Yellow Sheets									
Registered			Product	Thickness in.	Tensile Strength, ksi			Elongation Percent in 2 in. or 4D	Remarks²
Alloy Temper	By	Date			Basis¹	Ult.	Yield		
2033-T3	Eural Gnutti S.p.A.	05/11/2024	Bar, Rod & Wire	0.125-1.181	Min ⁶	54.0	35.0	7	Cold Finished.
				1.182-3.000	Min ⁶	49.0	32.0	7	
2033-T351	Eural Gnutti S.p.A.	05/11/2024	Bar, Rod & Wire	0.125-3.000	Min ⁶	54.0	35.0	5	Cold Finished.
2033-T6	Eural Gnutti S.p.A.	05/11/2024	Extruded Bar, Rod & Wire	0.125-3.000	Min ⁶	54.0	36.0	8	
				3.001-10.000	Min ⁶	49.0	32.0	8	
2033-T6	Eural Gnutti S.p.A.	05/11/2024	Extruded Profiles	0.125-1.500	Min ⁶	49.0	32.0	8	
2033-T6510	Eural Gnutti S.p.A.	05/11/2024	Extruded Bar, Rod & Wire	0.125-3.000	Min ⁶	54.0	36.0	8	
				3.001-10.000	Min ⁶	49.0	32.0	8	
2033-T6510	Eural Gnutti S.p.A.	05/11/2024	Extruded Profiles	0.125-1.500	Min ⁶	49.0	32.0	8	
2033-T6511	Eural Gnutti S.p.A.	05/11/2024	Extruded Bar, Rod & Wire	0.125-3.000	Min ⁶	54.0	36.0	8	
				3.001-10.000	Min ⁶	49.0	32.0	8	
2033-T6511	Eural Gnutti S.p.A.	05/11/2024	Extruded Profiles	0.125-1.500	Min ⁶	49.0	32.0	8	
2033-T8	Eural Gnutti S.p.A.	05/11/2024	Bar, Rod & Wire	0.125-3.000	Min ⁶	54.0	39.0	8	Cold Finished.

Unless specified below, for all referenced footnotes refer to the Yellow and/or Tan Sheets as applicable.

FN 4.b. Material shall be capable of passing the stress corrosion cracking test described in ASTM G47 when stressed to: b. 35 ksi.

FN 4.e. Material shall be capable of passing the stress corrosion cracking test described in ASTM G47 when stressed to: e. 45 ksi.

FN 9 Long Transverse

FN 10 Short Transverse

FN 15. b. Material shall be capable of demonstrating exfoliation corrosion resistance. Exfoliation corrosion resistance shall be determined in accordance with ASTM G34 and material shall not exhibit exfoliation corrosion greater than that illustrated by Photo EB, Figure 2. The applicable sample plane for testing is indicated by one of the following locations: b. At the T/10 plane.

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Registered			Product	Thickness in.	Tensile Strength, ksi			Elongation Percent in 2 in. or 4D	Remarks ²
Alloy Temper	By	Date			Basis ¹	Ult.	Yield		
2043-T85	Universal Alloy	02/07/2019	Extrusion	0.040-0.249	*Min ⁶	76.0	70.0	6	*Tentative
				0.250-0.499	*Min ⁶	78.0	73.0	7	Cross-sectional area less than or equal to 23 in ² and circle size less than or equal to 16 in.
				0.500-0.999	*Min ⁶	80.0	75.0	7	Solution heat treated and cold worked in the range 3-6% and artificially aged.
				1.000-2.500	*Min ⁶	82.0	78.0	7	<u>Stress Corrosion Resistance</u> For ST specimens taken from section thicknesses 0.75 in and greater, See footnote 4b. <u>Exfoliation Corrosion Resistance</u> See footnote 15b. Note: ASTM G85 Annex A2 Dry-Bottom MASTMAASIS Method for 2 weeks.
2050-T34	Constellium	01/25/2016 Revised 08/04/2017 Revised 02/01/2019	Plate	0.500-6.500	Min ⁹	50.0	34.0	17	Solution heat treated and cold worked 3-4.5%.

Unless specified below, for all referenced footnotes refer to the Yellow and/or Tan Sheets as applicable.

FN 4.b. Material shall be capable of passing the stress corrosion cracking test described in ASTM G47 when stressed to: b. 35 ksi.

FN 4.e. Material shall be capable of passing the stress corrosion cracking test described in ASTM G47 when stressed to: e. 45 ksi.

FN 9 Long Transverse

FN 10 Short Transverse

FN 15. b. Material shall be capable of demonstrating exfoliation corrosion resistance. Exfoliation corrosion resistance shall be determined in accordance with ASTM G34 and material shall not exhibit exfoliation corrosion greater than that illustrated by Photo EB, Figure 2. The applicable sample plane for testing is indicated by one of the following locations: b. At the T/10 plane.

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Registered			Product	Thickness in.	Tensile Strength, ksi			Elongation Percent in 2 in. or 4D	Remarks ²
Alloy Temper	By	Date			Basis ¹	Ult.	Yield		
2050-T84	Constellium	11/21/2022	Plate	6.501-7.000	*Min ⁶	70.0	66.0	4	*Tentative
					*Min ⁹	70.0	63.0	3	Solution heat treated and cold worked approximately 3-4.5% and artificially aged
					*Min ¹⁰	68.0	58.0	1.5	
				7.001-8.000	*Min ⁶	69.0	65.0	3	<u>Stress Corrosion Resistance</u>
					*Min ⁹	69.0	62.0	2	For thicknesses 6.501 – 8.000 inches
					*Min ¹⁰	66.0	57.0	1.5	Direct C-rings and Tensile specimens machined and tested in accordance with ASTM G47 shall show no evidence of stress corrosion failure when tested in the short transverse direction at 45 ksi and exposed for 30 days.
									<u>Fracture Toughness</u> ¹⁴ – Min K _{IC}
									For thicknesses 6.501 – 7.000 inches
									L-T direction 22 ksi/in T-L direction 18 ksi/in S-L direction 16 ksi/in
									For thicknesses 7.001 – 8.000 inches L-T direction 20 ksi/in T-L direction 16 ksi/in S-L direction 15 ksi/in

Unless specified below, for all referenced footnotes refer to the Yellow and/or Tan Sheets as applicable.

FN 4.b. Material shall be capable of passing the stress corrosion cracking test described in ASTM G47 when stressed to: b. 35 ksi.

FN 4.e. Material shall be capable of passing the stress corrosion cracking test described in ASTM G47 when stressed to: e. 45 ksi.

FN 9 Long Transverse

FN 10 Short Transverse

FN 15. b. Material shall be capable of demonstrating exfoliation corrosion resistance. Exfoliation corrosion resistance shall be determined in accordance with ASTM G34 and material shall not exhibit exfoliation corrosion greater than that illustrated by Photo EB, Figure 2. The applicable sample plane for testing is indicated by one of the following locations: b. At the T/10 plane.

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Registered			Product	Thickness in.	Tensile Strength, ksi			Elongation Percent in 2 in. or 4D	Remarks ²
Alloy Temper	By	Date			Basis ¹	Ult.	Yield		
2050-T84	Constellium	11/21/2022	Plate	6.501-7.000	Min ⁶	70.0	66.0	4	<u>*Tentative</u> Solution heat treated and cold worked approximately 3-4.5% and artificially aged. <u>Stress Corrosion Resistance</u> For thicknesses 6.501 – 8.000 inches Direct C-rings and Tensile specimens machined and tested in accordance with ASTM G47 shall show no evidence of stress corrosion failure when tested in the short transverse direction at 45 ksi and exposed for 30 days. <u>Fracture Toughness¹⁴ – Min K_{IC}</u> For thicknesses 6.501 – 7.000 inches L-T direction 22 ksi/in T-L direction 18 ksi/in S-L direction 16 ksi/in For thicknesses 7.001 – 8.000 inches L-T direction 20 ksi/in T-L direction 16 ksi/in S-L direction 15 ksi/in
					Min ⁹	70.0	63.0	3	
					Min ¹⁰	68.0	58.0	1.5	
				7.001-8.000	Min ⁶	69.0	65.0	3	
					Min ⁹	69.0	62.0	2	
					Min ¹⁰	66.0	57.0	1.5	
2074-T8	Constellium	04/11/2025	Sheet & Plate	0.032-0.500	*Min ⁶	60	54	8	<u>*Tentative</u> <u>Stress Corrosion Resistance</u> Material shall be capable of passing the stress corrosion cracking test as described in ASTM G47 when tested in the LT direction at a stress of 39.8 ksi for 40 days.
					*Min ⁹	58	50	8	

Unless specified below, for all referenced footnotes refer to the Yellow and/or Tan Sheets as applicable.

FN 4.b. Material shall be capable of passing the stress corrosion cracking test described in ASTM G47 when stressed to: b. 35 ksi.

FN 4.e. Material shall be capable of passing the stress corrosion cracking test described in ASTM G47 when stressed to: e. 45 ksi.

FN 9 Long Transverse

FN 10 Short Transverse

FN 15. b. Material shall be capable of demonstrating exfoliation corrosion resistance. Exfoliation corrosion resistance shall be determined in accordance with ASTM G34 and material shall not exhibit exfoliation corrosion greater than that illustrated by Photo EB, Figure 2. The applicable sample plane for testing is indicated by one of the following locations: b. At the T/10 plane.

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Registered			Product	Thickness in.	Tensile Strength, ksi			Elongation Percent in 2 in. or 4D	Remarks²
Alloy Temper	By	Date			Basis¹	Ult.	Yield		
2077-T4	Eural Gnutti S.p.A.	05/11/2024	Extruded Bar, Rod & Wire	0.125-3.000	Min ⁶	58.0	39.0	10	
				3.001-6.000	Min ⁶	57.0	38.0	9	
				6.001-8.000	Min ⁶	54.0	35.0	8	
				8.001-10.000	Min ⁶	52.0	32.0	7	
2077-T4511	Eural Gnutti S.p.A.	05/11/2024	Extruded Bar, Rod & Wire	0.125-3.000	Min ⁶	58.0	39.0	10	
				3.001-6.000	Min ⁶	57.0	38.0	9	
				6.001-8.000	Min ⁶	54.0	35.0	8	
				8.001-10.000	Min ⁶	52.0	32.0	7	
2077-T6	Eural Gnutti S.p.A.	05/11/2024	Bar, Rod & Wire	0.125-3.000	Min ⁶	70.0	58.0	5	Cold Finished.
2077-T6	Eural Gnutti S.p.A.	05/11/2024	Extruded Bar, Rod & Wire	0.125-6.000	Min ⁶	66.0	55.0	5	
				6.001-8.000	Min ⁶	61.0	41.0	8	
				8.001-10.000	Min ⁶	58.0	39.0	8	
2077-T651	Eural Gnutti S.p.A.	05/11/2024	Bar, Rod & Wire	0.125-3.000	Min ⁶	70.0	58.0	5	Cold Finished.

Unless specified below, for all referenced footnotes refer to the Yellow and/or Tan Sheets as applicable.

FN 4.b. Material shall be capable of passing the stress corrosion cracking test described in ASTM G47 when stressed to: b. 35 ksi.

FN 4.e. Material shall be capable of passing the stress corrosion cracking test described in ASTM G47 when stressed to: e. 45 ksi.

FN 9 Long Transverse

FN 10 Short Transverse

FN 15. b. Material shall be capable of demonstrating exfoliation corrosion resistance. Exfoliation corrosion resistance shall be determined in accordance with ASTM G34 and material shall not exhibit exfoliation corrosion greater than that illustrated by Photo EB, Figure 2. The applicable sample plane for testing is indicated by one of the following locations: b. At the T/10 plane.

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Registered			Product	Thickness in.	Tensile Strength, ksi			Elongation Percent in 2 in. or 4D	Remarks ²
Alloy Temper	By	Date			Basis ¹	Ult.	Yield		
2077-T6511	Eural Gnutti S.p.A.	05/11/2024	Extruded Bar, Rod & Wire	0.125-6.000	Min ⁶	66.0	55.0	5	
				6.001-8.000	Min ⁶	61.0	41.0	8	
				8.001-10.000	Min ⁶	58.0	39.0	8	
2081-T84	Kaiser	11/16/2018	Plate	1.000-2.000	*Min ⁶	76.0	73.0	8	<u>*Tentative</u> <u>Solution heat treated and cold worked 2-5%.</u>
					*Min ⁹	76.0	70.0	7	
				2.001-3.000	*Min ⁶	74.0	71.0	6	
					*Min ⁹	75.0	68.0	6	
					*Min ¹⁰	72.0	62.0	2	
				3.001-4.000	*Min ⁶	73.0	70.0	6	
					*Min ⁹	74.0	67.0	4	
					*Min ¹⁰	71.0	62.0	2	
2297-T87	McCook Metals	06/21/2000 Revised	Plate	1.500-2.000	Min ⁶	64.0	58.0	10	<u>Stress Corrosion Resistance</u> 30 days at 45 ksi when tested in the ST direction per ASTM G47 in the thickness range of 3.001-5.100 inches. Product outside this thickness rage will continue to exhibit capability of 30 days at 30 ksi. <u>Exfoliation Corrosion Resistance</u> See footnote 15.b.
	Constellium	06/03/2004 Revised 01/12/2022			Min ⁹	66.0	60.0	8	
					Min ¹⁰	65.0	57.0	2	
				2.001-2.500	Min ⁶	63.0	57.0	9	
					Min ⁹	64.0	58.0	7	
					Min ¹⁰	64.0	56.0	2	
				2.501-3.000	Min ⁶	62.0	57.0	9	
					Min ⁹	64.0	58.0	7	
	Min ¹⁰	62.0			55.0	2			

Unless specified below, for all referenced footnotes refer to the Yellow and/or Tan Sheets as applicable.

FN 4.b. Material shall be capable of passing the stress corrosion cracking test described in ASTM G47 when stressed to: b. 35 ksi.

FN 4.e. Material shall be capable of passing the stress corrosion cracking test described in ASTM G47 when stressed to: e. 45 ksi.

FN 9 Long Transverse

FN 10 Short Transverse

FN 15. b. Material shall be capable of demonstrating exfoliation corrosion resistance. Exfoliation corrosion resistance shall be determined in accordance with ASTM G34 and material shall not exhibit exfoliation corrosion greater than that illustrated by Photo EB, Figure 2. The applicable sample plane for testing is indicated by one of the following locations: b. At the T/10 plane.

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Registered			Product	Thickness in.	Tensile Strength, ksi			Elongation Percent in 2 in. or 4D	Remarks ²
Alloy Temper	By	Date			Basis ¹	Ult.	Yield		
				3.001-4.000	Min ⁶ Min ⁹ Min ¹⁰	62.0 62.0 59.0	57.0 57.0 54.0	5 4 1.5	Fracture Toughness ¹⁴ – Min K _{Ic} For thicknesses 1.500-3.000 inches L-T direction 32 ksi v.in. T-L direction 27 ksi v.in. S-L direction 20 ksi v.in.
				4.001-5.000	Min ⁶ Min ⁹ Min ¹⁰	61.0 61.0 58.0	56.0 56.0 52.0	5 4 1.5	For thicknesses 3.001-4.000 inches L-T direction 31 ksi v.in. T-L direction 27 ksi v.in. S-L direction 20 ksi v.in.
				5.001-6.000	Min ⁶ Min ⁹ Min ¹⁰	60.0 60.0 57.0	55.0 55.0 52.0	5 4 1.5	For thicknesses 4.001-5.000 inches L-T direction 30 ksi v.in. T-L direction 26 ksi v.in. S-L direction 18 ksi v.in.
									For thicknesses 5.001-6.000 inches L-T direction 29 ksi v.in. T-L direction 25 ksi v.in. S-L direction 18 ksi v.in.
2397-T87	Alcoa	02/12/2003 Revised	Plate	3.001-4.000	Min ⁶ Min ⁹ Min ¹⁰	62.0 62.0 60.0	57.0 57.0 54.0	5 4 1.5	Stress Corrosion Resistance See footnote 4.b. Exfoliation Corrosion Resistance See footnote 15.b. Fracture Toughness ¹⁴ – Min K _{Ic} For thickness 3.001-4.000 L-T direction 31 ksi v.in. T-L direction 27 ksi v.in. S-L direction 20 ksi v.in.
	Revised Arconic	08/17/2005 Revised							
		08/02/2018							

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FN 4.b. Material shall be capable of passing the stress corrosion cracking test described in ASTM G47 when stressed to: b. 35 ksi.

FN 4.e. Material shall be capable of passing the stress corrosion cracking test described in ASTM G47 when stressed to: e. 45 ksi.

FN 9 Long Transverse

FN 10 Short Transverse

FN 15. b. Material shall be capable of demonstrating exfoliation corrosion resistance. Exfoliation corrosion resistance shall be determined in accordance with ASTM G34 and material shall not exhibit exfoliation corrosion greater than that illustrated by Photo EB, Figure 2. The applicable sample plane for testing is indicated by one of the following locations: b. At the T/10 plane.

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Alloy Temper	By	Date			Basis ¹	Ult.	Yield		
6061-T651	Constellium	09/09/2019	Plate	6.001-8.000	Min ⁹	42.0	36.0	9	*Tentative
				8.001-10.000	Min ⁹	41.0	34.0	8	
				10.001-12.000	Min ⁹	40.0	32.0	8	
6089-T6511	Kaiser	04/18/2025	Rod & Bar	1.000 - 3.999	*Min ⁶	49.0	43.0	8	*Tentative
				4.000 - 8.000	*Min ⁶	46.0	40.0	7	
7048-T6511	Kaiser	04/08/2020	Extrusion	0.040 – 0.125	Min ⁶	67.0	63.0	10	
7055-T76511	Alcoa	01/15/2001	Extruded Rod, Bar & Profile	Up thru 0.249	Min ⁶	89.0	85.0	7	<u>Exfoliation Corrosion Resistance</u> See footnote 15. b. For thickness up thru 0.499 Inch Cross Sectional Area 12 in. ² and Circle Size 10 in. max. For thickness 0.500 – 3.000 Inch Cross Sectional Area 26.3 in. ² and Circle Size 15.3 in. max. Longitudinal Compressive Yield Strength: 87.0 ksi
	Revised Arconic	Revised 06/20/2007		0.250 – 0.499	Min ⁶	90.0	85.0	9	
		Revised 08/14/2020		0.500 – 3.000	Min ⁶	91.0	86.0	9	
7140-T7351	Constellium	02/17/2025	Plate	4.000-5.000	Min ⁶	68.0	60.0	10	*Tentative <u>Stress Corrosion Resistance</u> See footnote 4e.
					Min ⁹	69.0	59.0	7	
					Min ¹⁰	66.0	54.0	5	
				5.001-6.000	Min ⁶	68.0	60.0	10	
					Min ⁹	69.0	59.0	6	
					Min ¹⁰	65.0	54.0	5	

Unless specified below, for all referenced footnotes refer to the Yellow and/or Tan Sheets as applicable.

FN 4.b. Material shall be capable of passing the stress corrosion cracking test described in ASTM G47 when stressed to: b. 35 ksi.

FN 4.e. Material shall be capable of passing the stress corrosion cracking test described in ASTM G47 when stressed to: e. 45 ksi.

FN 9 Long Transverse

FN 10 Short Transverse

FN 15. b. Material shall be capable of demonstrating exfoliation corrosion resistance. Exfoliation corrosion resistance shall be determined in accordance with ASTM G34 and material shall not exhibit exfoliation corrosion greater than that illustrated by Photo EB, Figure 2. The applicable sample plane for testing is indicated by one of the following locations: b. At the T/10 plane.

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Alloy Temper	By	Date			Basis ¹	Ult.	Yield		
				6.001-7.000	Min ⁶	67.0	59.0	9	Fracture Toughness ¹⁴ – Min K _{IC} or K _Q
					Min ⁹	68.0	58.0	6	For thicknesses 4.000-5.000 inches
					Min ¹⁰	64.0	53.0	5	L-T direction 35 ksi/in
									T-L direction 25 ksi/in
									S-L direction 27 ksi/in
				7.001-8.000	Min ⁶	67.0	58.0	8	
					Min ⁹	68.0	57.0	5	
					Min ¹⁰	64.0	53.0	5	For thicknesses 5.001-6.000 inches
									L-T direction 33 ksi/in
									T-L direction 25 ksi/in
									S-L direction 27 ksi/in
				8.001-9.000	Min ⁶	67.0	58.0	8	
					Min ⁹	68.0	57.0	5	
					Min ¹⁰	64.0	53.0	5	
				9.001-10.000	Min ⁶	66.0	57.0	7	For thicknesses 6.001-7.000 inches
					Min ⁹	67.0	56.0	4	L-T direction 31 ksi/in
					Min ¹⁰	63.0	52.0	5	T-L direction 25 ksi/in
									S-L direction 27 ksi/in
									For thicknesses 7.001-8.000 inches
									L-T direction 29 ksi/in
									T-L direction 24 ksi/in
									S-L direction 27 ksi/in
									For thicknesses 8.001-9.000 inches
									L-T direction 27 ksi/in
									T-L direction 24 ksi/in
									S-L direction 27 ksi/in
									For thicknesses 9.001-10.000 inches
									L-T direction 27 ksi/in
									T-L direction 24 ksi/in
									S-L direction 27 ksi/in

Unless specified below, for all referenced footnotes refer to the Yellow and/or Tan Sheets as applicable.

FN 4.b. Material shall be capable of passing the stress corrosion cracking test described in ASTM G47 when stressed to: b. 35 ksi.

FN 4.e. Material shall be capable of passing the stress corrosion cracking test described in ASTM G47 when stressed to: e. 45 ksi.

FN 9 Long Transverse

FN 10 Short Transverse

FN 15. b. Material shall be capable of demonstrating exfoliation corrosion resistance. Exfoliation corrosion resistance shall be determined in accordance with ASTM G34 and material shall not exhibit exfoliation corrosion greater than that illustrated by Photo EB, Figure 2. The applicable sample plane for testing is indicated by one of the following locations: b. At the T/10 plane.

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Alloy Temper	By	Date			Basis ¹	Ult.	Yield		
7160-T7351	Constellium	11/08/2018 Revised 02/06/2020	Plate	1.000-1.500	Min ⁶ Min ⁹	74.0 74.0	67.0 65.0	13 11	<u>Stress Corrosion Resistance</u> See footnote 4e.
				1.501-2.000	Min ⁶ Min ⁹	73.0 73.0	67.0 65.0	13 11	<u>Fracture Toughness</u> ¹⁴ – Min K _{IC} or K _Q For thicknesses 1.000-2.000 inches L-T direction 40 ksi/in T-L direction 34 ksi/in
				2.001-3.000	Min ⁶ Min ⁹ Min ¹⁰	72.0 73.0 70.0	65.0 64.0 59.0	12 10 6	For thicknesses 2.001-3.000 inches L-T direction 45 ksi/in T-L direction 33 ksi/in S-L direction 35 ksi/in
				3.001-4.000	Min ⁶ Min ⁹ Min ¹⁰	71.0 72.0 70.0	4.0 63.0 58.0	12 9 5	For thicknesses 3.001-4.000 inches L-T direction 38 ksi/in T-L direction 30 ksi/in S-L direction 34 ksi/in
				4.001-5.000	Min ⁶ Min ⁹ Min ¹⁰	70.0 72.0 69.0	64.0 62.0 58.0	11 8 4	For thicknesses 4.001-5.000 inches L-T direction 36 ksi/in T-L direction 27 ksi/in S-L direction 31 ksi/in
				5.001-6.000	Min ⁶ Min ⁹ Min ¹⁰	70.0 71.0 68.0	63.0 61.0 58.0	11 7 3	For thicknesses 5.001-6.000 inches L-T direction 28 ksi/in T-L direction 25 ksi/in S-L direction 26 ksi/in
7140-T7451	Alcan Revised Constellium	06/15/2005 04/16/2024	Plate	4.001-5.000	Min ⁶ Min ⁹ Min ¹⁰	71.0 73.0 69.0	66.0 65.0 60.0	9 5 3	<u>Stress Corrosion Resistance</u> See footnote 4.b.
				5.001-6.000	Min ⁶ Min ⁹ Min ¹⁰	71.0 72.0 69.0	66.0 65.0 60.0	8 4 3	<u>Exfoliation Corrosion Resistance</u> See footnote 15.b.

Unless specified below, for all referenced footnotes refer to the Yellow and/or Tan Sheets as applicable.

FN 4.b. Material shall be capable of passing the stress corrosion cracking test described in ASTM G47 when stressed to: b. 35 ksi.

FN 4.e. Material shall be capable of passing the stress corrosion cracking test described in ASTM G47 when stressed to: e. 45 ksi.

FN 9 Long Transverse

FN 10 Short Transverse

FN 15. b. Material shall be capable of demonstrating exfoliation corrosion resistance. Exfoliation corrosion resistance shall be determined in accordance with ASTM G34 and material shall not exhibit exfoliation corrosion greater than that illustrated by Photo EB, Figure 2. The applicable sample plane for testing is indicated by one of the following locations: b. At the T/10 plane.

ADDENDUM TO 2018 EDITION OF YELLOW SHEETS
Tempers for Aluminum and Aluminum Alloy Products

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New and Revised Registrations Since Publication of 2018 Edition of Yellow Sheets									
Registered			Product	Thickness in.	Tensile Strength, ksi			Elongation Percent in 2 in. or 4D	Remarks ²
Alloy Temper	By	Date			Basis ¹	Ult.	Yield		
				6.001-7.000	Min ⁶ Min ⁹ Min ¹⁰	71.0 72.0 68.0	65.0 64.0 59.0	7 4 3	
				7.001-8.000	Min ⁶ Min ⁹ Min ¹⁰	70.0 71.0 68.0	65.0 63.0 58.0	6 4 3	
				8.001-9.000	Min ⁹ Min ⁹ Min ¹⁰	70.0 71.0 67.0	65.0 63.0 58.0	6 4 3	
				9.001-10.000	Min ⁹ Min ⁹ Min ¹⁰	70.0 70.0 67.0	65.0 63.0 58.0	5 3 3	
7140-T7651	Alcan Revised Constellium Revised Constellium	08/01/2006 Revised 03/27/2014 Revised 02/27/2023	Plate	4.001-5.000	Min ⁶ Min ⁹ Min ¹⁰	74.0 76.0 73.0	70.0 69.0 63.0	7 6 3	<u>Stress Corrosion Resistance</u> Material shall be capable of passing the stress corrosion cracking test described in ASTM G47 when stressed to 26 ksi for 20 days.
				5.001-6.000	Min ⁶ Min ⁹ Min ¹⁰	74.0 75.0 72.0	70.0 68.0 62.0	7 4 3	<u>Exfoliation Corrosion Resistance</u> See footnote 15.b.
				6.001-7.000	Min ⁶ Min ⁹ Min ¹⁰	73.0 75.0 71.0	69.0 68.0 62.0	7 3 3	<u>Fracture Toughness</u> ¹⁴ – Min K _{IC} For thicknesses 4.001-5.000 inches L-T direction 27 ksi/in. T-L direction 22 ksi/in. S-L direction 22 ksi/in.

Unless specified below, for all referenced footnotes refer to the Yellow and/or Tan Sheets as applicable.

FN 4.b. Material shall be capable of passing the stress corrosion cracking test described in ASTM G47 when stressed to: b. 35 ksi.

FN 4.e. Material shall be capable of passing the stress corrosion cracking test described in ASTM G47 when stressed to: e. 45 ksi.

FN 9 Long Transverse

FN 10 Short Transverse

FN 15. b. Material shall be capable of demonstrating exfoliation corrosion resistance. Exfoliation corrosion resistance shall be determined in accordance with ASTM G34 and material shall not exhibit exfoliation corrosion greater than that illustrated by Photo EB, Figure 2. The applicable sample plane for testing is indicated by one of the following locations: b. At the T/10 plane.

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New and Revised Registrations Since Publication of 2018 Edition of Yellow Sheets									
Registered			Product	Thickness in.	Tensile Strength, ksi			Elongation Percent in 2 in. or 4D	Remarks ²
Alloy Temper	By	Date			Basis ¹	Ult.	Yield		
				7.001-8.000	Min ⁶ Min ⁹ Min ¹⁰	72.0 74.0 71.0	69.0 67.0 61.0	6 3 3	For thicknesses 5.001-6.000 inches L-T direction 25 ksiVin. T-L direction 21 ksiVin. S-L direction 22 ksiVin.
				8.001-9.000	Min ⁶ Min ⁹ Min ¹⁰	72.0 73.0 69.0	68.0 65.0 60.0	5 3 3	For thicknesses 6.001-7.000 inches L-T direction 24 ksiVin. T-L direction 20 ksiVin. S-L direction 22 ksiVin.
				9.001-10.000	Min ⁶ Min ⁹ Min ¹⁰	71.0 71.0 68.0	67.0 64.0 59.0	5 2 3	For thicknesses 7.001-8.000 inches L-T direction 22 ksiVin. T-L direction 19 ksiVin. S-L direction 21 ksiVin. For thicknesses 8.001-9.000 inches L-T direction 20 ksiVin. T-L direction 18 ksiVin. S-L direction 20 ksiVin. For thicknesses 9.001-10.000 inches L-T direction 18 ksiVin. T-L direction 17 ksiVin. S-L direction 20 ksiVin.
P 7160-T7451	Constellium	11/02/2018	Plate	1.000-1.500	*Min ⁶ *Min ⁹	77.0 76.0	71.0 69.0	14 13	*Tentative <u>Stress Corrosion Resistance</u> See footnote 4b.
1				1.501-2.000	*Min ⁶ *Min ⁹ *Min ¹⁰	77.0 76.0 73.0	71.0 69.0 64.0	14 12 6	<u>Fracture Toughness</u> ¹⁴ – Min K _{IC} or K _Q For thicknesses 1.000-1.500 inches L-T direction 34 ksiVin T-L direction 29 ksiVin

Unless specified below, for all referenced footnotes refer to the Yellow and/or Tan Sheets as applicable.

FN 4.b. Material shall be capable of passing the stress corrosion cracking test described in ASTM G47 when stressed to: b. 35 ksi.

FN 4.e. Material shall be capable of passing the stress corrosion cracking test described in ASTM G47 when stressed to: e. 45 ksi.

FN 9 Long Transverse

FN 10 Short Transverse

FN 15. b. Material shall be capable of demonstrating exfoliation corrosion resistance. Exfoliation corrosion resistance shall be determined in accordance with ASTM G34 and material shall not exhibit exfoliation corrosion greater than that illustrated by Photo EB, Figure 2. The applicable sample plane for testing is indicated by one of the following locations: b. At the T/10 plane.

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New and Revised Registrations Since Publication of 2018 Edition of Yellow Sheets									
Registered			Product	Thickness in.	Tensile Strength, ksi			Elongation Percent in 2 in. or 4D	Remarks ²
Alloy Temper	By	Date			Basis ¹	Ult.	Yield		
				2.001-3.000	*Min ⁶ *Min ⁹ *Min ¹⁰	75.0 75.0 73.0	69.0 68.0 64.0	13 11 6	For thicknesses 1.501-2.000 inches L-T direction 34 ksi/in T-L direction 29 ksi/in
				3.001-4.000	*Min ⁶ *Min ⁹ *Min ¹⁰	73.0 75.0 72.0	68.0 67.0 62.0	13 10 4	For thicknesses 2.001-3.000 inches L-T direction 32 ksi/in T-L direction 27 ksi/in S-L direction 28 ksi/in
				4.001-5.000	*Min ⁶ *Min ⁹ *Min ¹⁰	72.0 74.0 70.0	67.0 66.0 61.0	11 9 3	For thicknesses 3.001-4.000 inches L-T direction 30 ksi/in T-L direction 25 ksi/in
				5.001-6.000	*Min ⁶ *Min ⁹ *Min ¹⁰	72.0 73.0 69.0	66.0 65.0 61.0	10 6 2	For thicknesses 4.001-5.000 inches L-T direction 28 ksi/in T-L direction 24 ksi/in S-L direction 26 ksi/in
									For thicknesses 5.001-6.000 inches L-T direction 26 ksi/in T-L direction 22 ksi/in S-L direction 25 ksi/in
7160-T7651	Constellium	12/05/2017 Revised 12/19/2018	Plate	1.000-1.500	Min ^a Min ^b	79.0 78.0	74.0 72.0	13 13	<u>Stress Corrosion Resistance</u> See footnote 4a.
				1.501-2.000	Min ^a Min ^b Min ^c	78.0 78.0 75.0	74.0 72.0 66.0	12 12 6	<u>Fracture Toughness</u> ^a – Min K _{IC} or K _{IC} For thicknesses 1.000-2.000 inches L-T direction 34 ksi/in T-L direction 29 ksi/in

Unless specified below, for all referenced footnotes refer to the Yellow and/or Tan Sheets as applicable.

FN 4.b. Material shall be capable of passing the stress corrosion cracking test described in ASTM G47 when stressed to: b. 35 ksi.

FN 4.e. Material shall be capable of passing the stress corrosion cracking test described in ASTM G47 when stressed to: e. 45 ksi.

FN 9 Long Transverse

FN 10 Short Transverse

FN 15. b. Material shall be capable of demonstrating exfoliation corrosion resistance. Exfoliation corrosion resistance shall be determined in accordance with ASTM G34 and material shall not exhibit exfoliation corrosion greater than that illustrated by Photo EB, Figure 2. The applicable sample plane for testing is indicated by one of the following locations: b. At the T/10 plane.

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New and Revised Registrations Since Publication of 2018 Edition of Yellow Sheets									
Registered			Product	Thickness in.	Tensile Strength, ksi			Elongation Percent in 2 in. or 4D	Remarks²
Alloy Temper	By	Date			Basis¹	Ult.	Yield		
				2.001-3.000	Min ⁶ Min ⁹ Min ¹⁰	76.0 77.0 74.0	72.0 71.0 65.0	12 11 5	For thicknesses 2.001-3.000 inches L-T direction 32 ksi/in T-L direction 27 ksi/in S-L direction 29 ksi/in
				3.001-4.000	Min ⁶ Min ⁹ Min ¹⁰	75.0 77.0 73.0	72.0 70.0 64.0	12 10 4	For thicknesses 3.001-4.000 inches L-T direction 29 ksi/in T-L direction 26 ksi/in S-L direction 28 ksi/in
				4.001-5.000	Min ⁶ Min ⁹ Min ¹⁰	74.0 76.0 73.0	71.0 69.0 64.0	11 9 4	
7085-T711	Alcoa Revised Arconic	10/25/2011 Revised 08/02/2018	Plate	0.500-1.500	Min ⁹	80.0	74.0	11	Solution heat treated, stretched 1.5 to 3%, and overaged for ballistic performance.
				1.501-2.000	Min ⁹	78.0	73.0	11	0.500-3.000 in. plate meets armor plate requirements of MIL-DTL-32375 (MR) Class I Type A.
				2.001-3.000	Min ⁹	77.0	72.0	10	
				3.001-4.000	Min ⁹	76.0	70.0	7	<u>Exfoliation Corrosion Resistance</u> See footnote 15.b.
7085-T721	Alcoa Revised Arconic	10/27/2011 Revised 08/02/2018	Plate	0.500-1.500	Min ⁹	68.0	60.0	12	Solution heat treated, stretched 1.5 to 3%, and overaged for ballistic performance.
				1.501-2.000	Min ⁹	67.0	59.0	12	0.500-3.000 in. plate meets armor plate requirements of MIL-DTL-32375 (MR) Class I Type B.
				2.001-3.000	Min ⁹	67.0	58.0	11	
				3.001-4.000	Min ⁹	66.0	57.0	10	<u>Exfoliation Corrosion Resistance</u> See footnote 15.b.

Unless specified below, for all referenced footnotes refer to the Yellow and/or Tan Sheets as applicable.

FN 4.b. Material shall be capable of passing the stress corrosion cracking test described in ASTM G47 when stressed to: b. 35 ksi.

FN 4.e. Material shall be capable of passing the stress corrosion cracking test described in ASTM G47 when stressed to: e. 45 ksi.

FN 9 Long Transverse

FN 10 Short Transverse

FN 15. b. Material shall be capable of demonstrating exfoliation corrosion resistance. Exfoliation corrosion resistance shall be determined in accordance with ASTM G34 and material shall not exhibit exfoliation corrosion greater than that illustrated by Photo EB, Figure 2. The applicable sample plane for testing is indicated by one of the following locations: b. At the T/10 plane.

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New and Revised Registrations Since Publication of 2018 Edition of Yellow Sheets									
Registered			Product	Thickness in.	Tensile Strength, ksi			Elongation Percent in 2 in. or 4D	Remarks²
Alloy Temper	By	Date			Basis¹	Ult.	Yield		
7099-T731	Kaiser	03/13/2020	Plate	2.000-3.000	*Min ⁹	68.0	58.0	12	*Tentative Solution heat treated, stretched 1.5 to 3%, and artificially aged to meet armor plate requirements. Developed to meet armor plate requirements of MIL-DTL-32375 (Revision B Amendment 2). <u>Exfoliation Corrosion Resistance</u> See footnote 15.b.
A206-T4	Eck Industries	09/14/2020	Sand Casting	-	Min	51.0	31.0	9	Properties are from separate standard cast coupons.
A206-T7	Eck Industries	09/14/2020	Sand Casting	-	Min	50.0	35.0	2	Properties are from separate standard cast coupons.
E357-T61	Eck Industries	02/17/2017	Sand Casting	-	Min	40.0	34.0	1	Values represent properties obtained from separately cast bars and are derived from ASTM B-26, Standard Specification for Aluminum-Alloy Sand Castings.

Unless specified below, for all referenced footnotes refer to the Yellow and/or Tan Sheets as applicable.

FN 4.b. Material shall be capable of passing the stress corrosion cracking test described in ASTM G47 when stressed to: b. 35 ksi.

FN 4.e. Material shall be capable of passing the stress corrosion cracking test described in ASTM G47 when stressed to: e. 45 ksi.

FN 9 Long Transverse

FN 10 Short Transverse

FN 15. b. Material shall be capable of demonstrating exfoliation corrosion resistance. Exfoliation corrosion resistance shall be determined in accordance with ASTM G34 and material shall not exhibit exfoliation corrosion greater than that illustrated by Photo EB, Figure 2. The applicable sample plane for testing is indicated by one of the following locations: b. At the T/10 plane.

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Tentative Removed			
Alloy Temper	Product	By	Revised Date
2397-T87	Plate	Arconic	08/02/2018
7085-T711	Plate	Arconic	08/02/2018
7085-T721	Plate	Arconic	08/02/2018
7160-T7351	Plate	Constellium	02/06/2020
7160-T7651	Plate	Constellium	12/19/2018
2050-T34	Plate	Constellium	02/01/2019

Deactivated Tempers		
Alloy /Temper	Product	Date Deactivated
Alclad 2024-O ²	Sheet & Plate	08/11/2018
Alclad 2024-T351 ²	Plate	08/11/2018
Alclad 2024-T42 ²	Sheet & Plate	08/11/2018
1 ½% Alclad 2024-O ²	Sheet & Plate	08/11/2018
1 ½% Alclad 2024-T351 ²	Plate	08/11/2018
1 ½% Alclad 2024-T42 ²	Sheet & Plate	08/11/2018

++ Deactivation is limited to specific gauge range(s) for the product indicated

Unless specified below, for all referenced footnotes refer to the Yellow and/or Tan Sheets as applicable.

FN 4.b. Material shall be capable of passing the stress corrosion cracking test described in ASTM G47 when stressed to: b. 35 ksi.

FN 4.e. Material shall be capable of passing the stress corrosion cracking test described in ASTM G47 when stressed to: e. 45 ksi.

FN 9 Long Transverse

FN 10 Short Transverse

FN 15. b. Material shall be capable of demonstrating exfoliation corrosion resistance. Exfoliation corrosion resistance shall be determined in accordance with ASTM G34 and material shall not exhibit exfoliation corrosion greater than that illustrated by Photo EB, Figure 2. The applicable sample plane for testing is indicated by one of the following locations: b. At the T/10 plane.