

TO: Isolatek Recognized Applicators
FROM: Technical Services
DATE: July 27, 2018
SUBJECT: Updated UL Designs

We are pleased to announce that over the course of the past year, several key UL Designs were updated. These updates include improvements to the formatting, major thickness enhancements, as well as consolidation of products.

The 'key' designs that have been added or updated are:

D759, D832, D858, D902, G705, G717, G801, G809, N759, N761, N815, N823, N830, N868, P819, X827

Besides general formatting changes, the following is a summary of the major changes made to each of the aforementioned designs.

UL Design [D759](#) – Combined fluted and cellular decks into a single and easy to read table. CAFCO[®] FENDOLITE[®] M-II, TG, and M-II/P were added to this design at the same thicknesses as the CAFCO[®] 300 and CAFCO[®] 400 Series products. This will now be our main floor design for the FENDOLITE products, replacing both D744 and D781.

UL Design [D902](#) – Reference to the W12x14 beam size was removed to avoid unnecessary confusion. We removed reference to the half-flange tip thicknesses since they are not necessary and can simply be located on the N-Series design. For our CAFCO[®] BLAZE-SHIELD[®] Series products, cellular beams thicknesses were adjusted. We also added the previously missing 3 hour beam for LW concrete under Item 6 for the BLAZE-SHIELD products. Additionally, CAFCO 400 and FENDOLITE products are now combined under the same thickness table as the CAFCO 300 series products.

UL Design [N759](#) – Lathing options were clarified. Combined CAFCO 400 into the same table as CAFCO 300 Series (these were previously separated). CAFCO FENDOLITE M-II, TG, and M-II/P were added to this design under the same thickness tables as the CAFCO 300 and CAFCO 400 Series products (replacing Design N742).

UL Design [N761](#) – Thickness reductions were made to the 10k1 joists. Glass Fiber Mesh verbiage was updated under Item 7A. CAFCO FENDOLITE M-II, TG, and M-II/P were added to this design under the same thickness tables as the CAFCO 300 and CAFCO 400 Series products (replacing Design N760).

UL Design [N815](#) – This is now our sole “T/2” or “Half-Flange Tip” design for our BLAZE-SHIELD products. This design contains both fluted and cellular deck. This replaces any prior “T/2” or “Half-Flange Tip” designs (also replacing Design N816).

UL Design [N823](#) – This familiar design is now the central design for fluted and cellular deck with our BLAZE-SHIELD products for use when the T/2 or Half-Flange Tip option is NOT being used (refer to N815).

UL Design [P819](#) – Reduced beam thicknesses for 1 and 1-1/2 hour for BLAZE-SHIELD Series products. Reduced joist thicknesses for both BLAZE-SHIELD and FENDOLITE products for 1 and 1-1/2 hour. Additionally, reduced joist thicknesses available for spacing 4’ OC (or less) for CAFCO BLAZE-SHIELD products. This design now contains a 3 hour rating, which was previously covered in design P826. Glass Fiber Mesh verbiage was updated. This will continue to be our main roof assembly for CAFCO FENDOLITE Series products.

UL Design [X829](#) – This continues to be our main wide flange column design for CAFCO BLAZE-SHIELD Series products. Reduced thicknesses are now available on various member sizes listed in the tables for 1 through 4 hours. This will also eliminate design X835, which was rarely used.

UL Designs [D832](#) & [D858](#) – Both designs now have common and easy to understand thickness tables. Separate tables for decking and beams. The beam size was updated to be W8x28 across both designs. Only D858 contains a 4 hour floor rating. Electrified deck options still differ slightly in both designs.

UL Design [G705](#) – Removed unnecessary restrained assembly ratings from the table. Added the 1.5 hr. restrained & unrestrained assembly that was previously missing. Added 10k1 designation and thicknesses. Removed 16k6 designation and thicknesses, as they are no longer applicable. CAFCO FENDOLITE M-II, TG, and M-II/P were added to this design under the same thickness tables as the CAFCO 300 Series products. CAFCO 400 is now combined under the same general thickness table. Updated the verbiage for the Glass Fiber Mesh.

UL Design [G717](#) – This is the new LRFD corrugated deck design for our CAFCO 300 Series, CAFCO 400 Series and CAFCO FENDOLITE Series products. Removed unnecessary restrained assembly ratings from the table. Added 1.5 hr. restrained & unrestrained assembly that were previously missing. Added proper designations to the table for easy reference. Added joist spacing option for 4’ OC (or less) which resulted in reduced thicknesses on the 10k1 joists.

UL Design [G801](#) – Removed unnecessary restrained assembly ratings from the table. Added 1.5 hr. restrained & unrestrained assembly that were previously missing. Added 10k1 designation and thicknesses. Updated the verbiage for the Glass Fiber Mesh.

UL Design [G809](#) – This is the new LRFD corrugated deck design for CAFCO BLAZE-SHIELD Series products. Removed unnecessary restrained assembly ratings from the table. Added 1.5 hr. restrained & unrestrained assembly that were previously missing. Added joist spacing option for 4’ OC (or less) which results in reduced thicknesses.

UL Design [N830](#) – Added 10k1 joist thicknesses which resulted in thickness reductions. Updated the verbiage for the Glass Fiber Mesh. Tables are now split out for NW and LW concrete, as well as fluted and corrugated/cellular decking.

UL Design [N868](#) – This is the new LRFD floor joist design for CAFCO BLAZE-SHIELD Series products. Thicknesses were recently updated. Contains both fluted and cellular/corrugated deck, as well as reduced thicknesses for joists with spacing 4' OC (or less) which resulted in further reduced thicknesses.

The following table provides a comparison between existing designs and the current designs that should now be used:

Existing Design	Current Design
D744 & D781	D759
N742	N759
N760	N761
N816	N815
P826	P819
X835	X829

Should you have any questions, our Technical Services Group can be reached at (800) 631-9600, select Option 1, or via e-mail at technical@isolatek.com.

FLOOR/CEILING ASSEMBLIES					
General Construction Detail	CAFCO® BLAZE-SHIELD® Series	CAFCO® 300 & 400 Series	Southwest/Carboline Type 5	Monokote® MK Series & Z106/HY	Promat PROMASPRAY® F3 (P300) & F4 (P400)
1-1/2", 2" or 3" Deck with 2-1/2" NW or LW Concrete	D832/D858/E701/E702	D759/D796**/D799	D739	D739/D798	D795/D874
2" or 3" Floor Deck with 2" NW or LW Concrete	D859	D859	D743	D743	D875
Protected Floor Deck with 3-1/4" LW Concrete Topping	D860	D860	D754	D754/D782	D874
Unprotected Floor Assembly	D902/D988	D902/D988	D916	D916/D925	D957
"Dove Tail" Deck Systems	D904/D942/D947	D904/D942/D947	D917	D917/D980	D961/D964/D963
Minimum 9/16" Corrugated Deck with Concrete	G801/G809	G705/G717	G701/D788	G701/G710/D780	G714
Hambro Joist System	G802	G716**	G702	G702	N/A
Vescom Joist System	G805	*	G703	G703	N/A
NW Concrete Pan Joists	J803	J710	J701	J701	J724
Precast NW Concrete "Teas"	J804	J804	J704	J704	J807
Precast LW Concrete "Teas"	J805	J805	J705	J705	J808
Precast Hollow-Core with Steel Beams	J801	*	N/A	N/A	N/A
Hollow-Core Topping with Steel Beams	J957	J957	J957	J957	J958
Steel Beams Supporting a Concrete Slab (No Deck)	J809	J708/J809	J709/J718	J709/J712	J806
Tread & Riser Assembly	*	D797	N/A	D797	N/A

*Contact Isolatek Technical, **CAFCO 304, Commonly Used Designs (red). Some UL Designs may no longer be listed in the most current UL Directory.
All designs based on ASD unless highlighted (blue), which are then LRFD (non load limited for restrained assemblies/beams greater than 1 hour)

FLOOR BEAMS AND FLOOR JOISTS (used for beam substitution)					
General Construction Detail	CAFCO® BLAZE-SHIELD® Series	CAFCO® 300 & 400 Series	Southwest/Carboline Types 5 & 7	Monokote® MK Series & Z106/HY	Promat PROMASPRAY® F3 (P300) & F4 (P400)
Beams - Unprotected Floor Deck (can also be protected)	N815/N816/N823/N860	N743/N759	N708/N736/N791	N708/N852	N800/N801
Beams - Protected Floor Deck	N805	N759	N706/N736	N706/N779	N/A
Floor Joists (protected or unprotected)	N830/N826/N868	N761/N792	N736/N754/N763	N736/N754/N777/N854	N802

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ROOF/CEILING ASSEMBLIES					
General Construction Detail	CAFCO® BLAZE-SHIELD® Series	CAFCO® 300 & 400 Series	Southwest/Carboline Types 5 & 7	Monokote® MK Series & Z106/HY	Promat PROMASPRAY® F3 (P300) & F4 (P400)
Mineral & Fiber Boards Direct to Deck	P801	P719/P723	P701	P701/P710/P711/P717/P732/P740/P753	P750/P751
Polyisocyanurate Roof Insulation Direct to Deck	P819	P723	P717/P711/P741	P717/P732/P753	P750
Gyp Sheathing and Polyisocyanurate Roof Insulation	P819	P719	P717/P711/P741	P701/P710/P717/P732/P753	P751
Gyp Sheathing and Polystyrene Roof Insulation	P825	P719	P717/P741	P701/P710/P714/P717/P725/P753	P751
Gyp Sheathing and Polyurethane Roof Insulation	P826	P826	N/A	P733/P753	P830
No Insulation, No Gypsum Board	P819	P723	P741	P732/P753	P750
IRMA System - Beams/Deck	P811	P719	N/A	P714	P751

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ROOF BEAMS AND ROOF JOISTS (used for beam substitution)					
General Construction Detail	CAFCO® BLAZE-SHIELD® Series	CAFCO® 300 & 400 Series	Southwest/Carboline Types 5 & 7	Monokote® MK Series & Z106/HY	Promat PROMASPRAY® F3 (P300) & F4 (P400)
Beams - Unprotected Roof Deck (can also be protected)	S801/S803	S729	S701	S701/S735	S746
Beams - Protected Roof Deck	S805/S812	S721/S751	S715/S740	S715/S734/S750	S747
Joists - Unprotected Roof Deck (can also be protected)	S806	S729	S739	S736	S746
Joists - Protected Roof Deck	S802/S812	S721/S751	S702	S702/S728/S749	S747

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INSULATING CONCRETE ROOF ASSEMBLIES					
General Construction Detail	CAFCO® BLAZE-SHIELD® Series	CAFCO® 300 & 400 Series	Southwest/Carboline Types 5 & 7	Monokote® MK Series & Z106/HY	Promat PROMASPRAY® F3 (P300) & F4 (P400)
Cellular, Perlite or Vermiculite Concrete Assemblies	P908	P908	P907/P908	P907/P908	P939
Cellular or Perlite Concrete Assemblies	P920	P920	P907/P919	P920	P944
Foamed Plastic "Sandwiched" in Insulating Concrete	P922/P923	P922/P923	P921/P923/P937	P921/P923/P936	P939/P942
Gypsum Concrete and Form Board	*	P675	P675	P675	P602
Gypsum Concrete and Wallboard	P807	P676	P676	P676	P603

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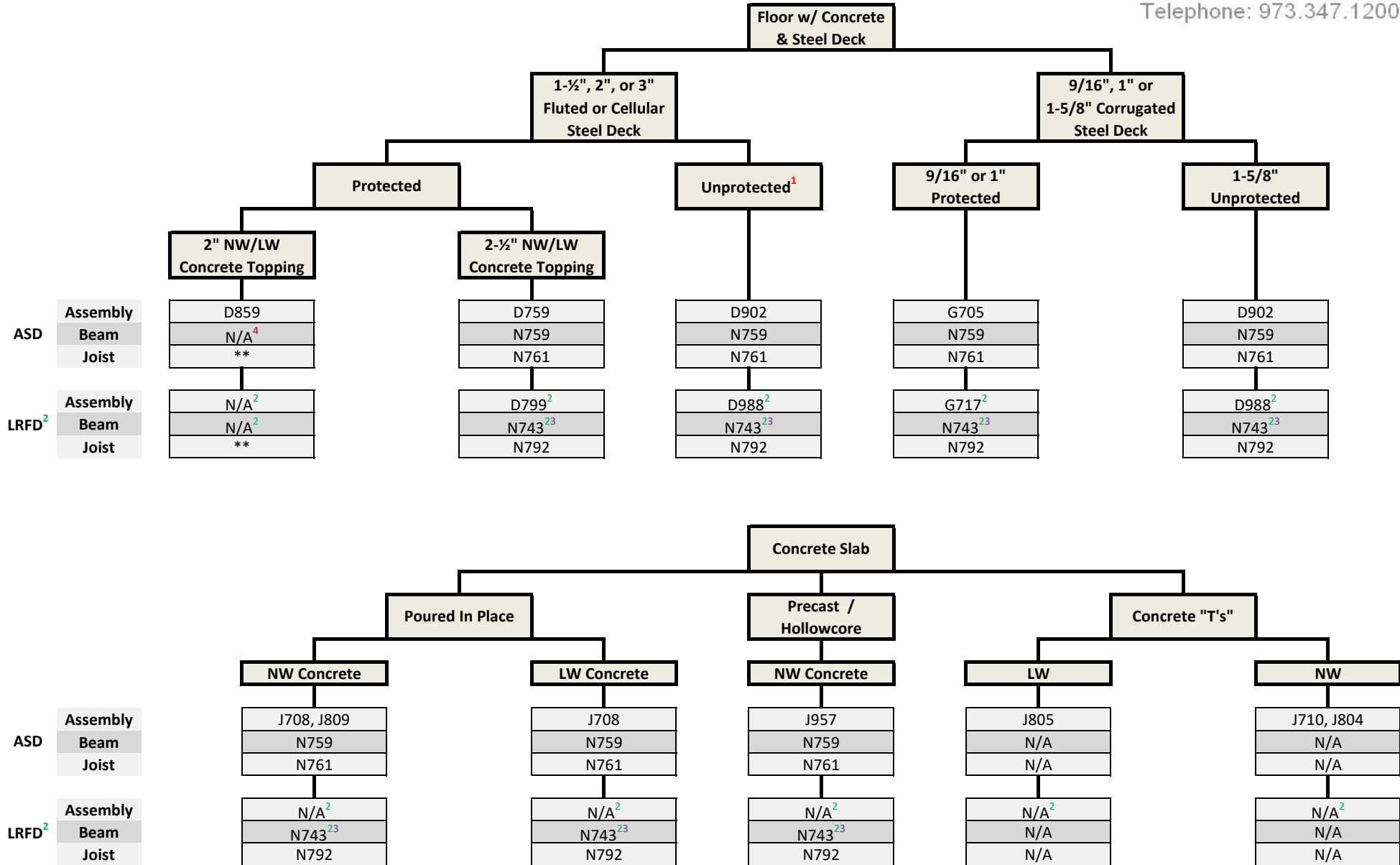
COLUMNS					
General Construction Detail	CAFCO® BLAZE-SHIELD® Series	CAFCO® 300 & 400 Series	Southwest/Carboline Types 5 & 7	Monokote® MK Series & Z106/HY	Promat PROMASPRAY® F3 (P300) & F4 (P400)
Wide Flange Columns	X829/X835	X790/Y729	X722/X723/X772/Y725	X701/X723/X772/X795/ Y715/Y724	X845
Boxed Wide Flange Columns with Gyp Board	X525	*	X527	X752/X771/Y710	
Tube Columns	X827	X790/Y729	X752/X771	X752/X771/X795/Y710	X845
Pipe Columns	X827	X790/Y729	X752/X771	X751/X771/X795/Y710	X845
Concrete Filled Pipe Columns	X841	*	N/A	X791	

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WALLS & PARTITIONS					
General Construction Detail	CAFCO® BLAZE-SHIELD® Series	CAFCO® 300 & 400 Series	Southwest/Carboline Types 5 & 7	Monokote® MK Series & Z106/HY	Promat PROMASPRAY® F3 (P300) & F4 (P400)
Wood Framed Wall with 1 layer gypsum wallboard	U357	N/A	N/A	N/A	N/A
Steel Framed Wall with multiple layers wallboard	U450	N/A	N/A	U475	N/A
Steel Framed Wall with plaster	U431	N/A	N/A	V443	N/A
Steel Facing Units with reinforcing channels	U804	U706**	U703	U703	N/A

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ASD = Allowable Strength Design (may be load limited), LRFD = Load and Resistance Factor Design (not load limited)

¹Refer to Design concrete tables to determine eligibility

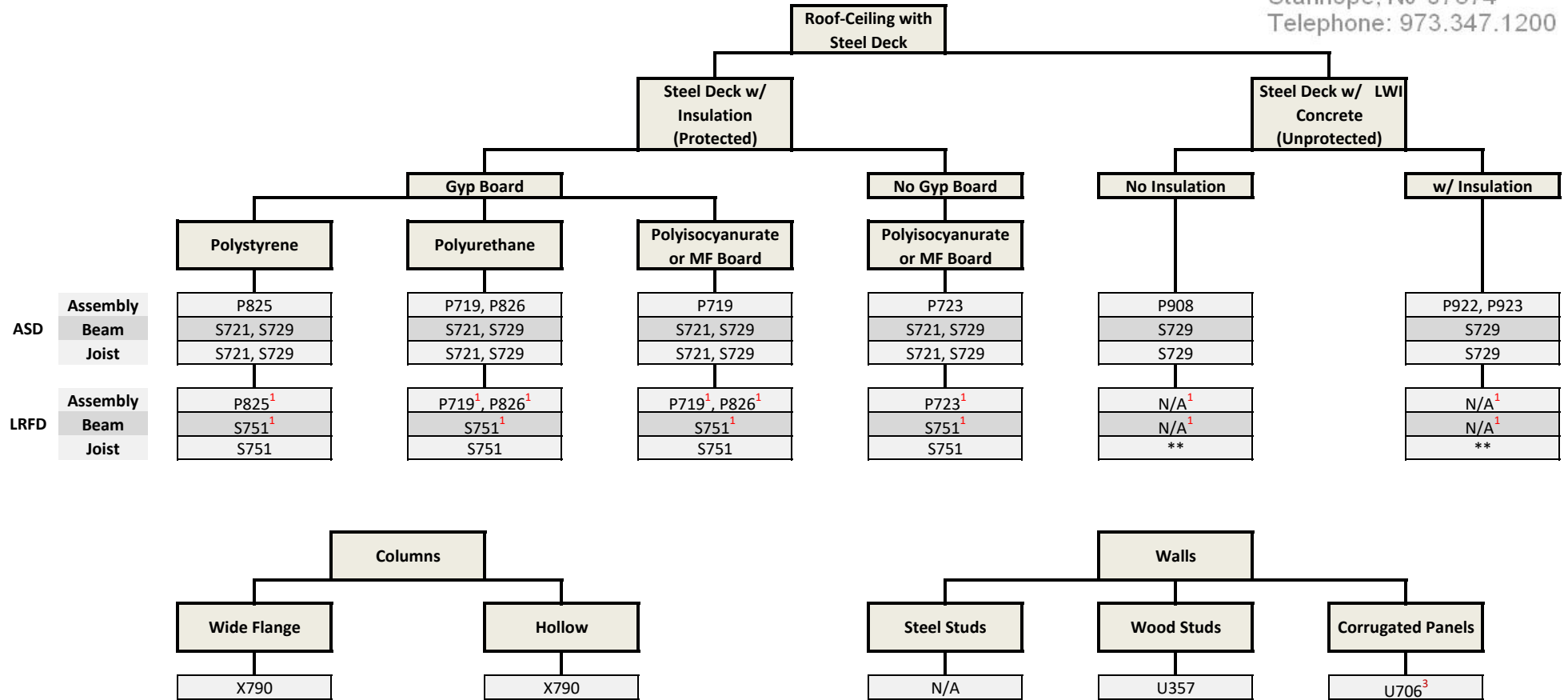
²Except for use in Canada, use only for 1.5+ hr. Restrained Assemblies / Restrained beams and with all joists. Otherwise for all 1 hr ratings and all Unrestrained Assemblies / Beams, refer to 'ASD' Designs

³Refer to N759 unrestrained beam thicknesses for possible thickness reductions, which may be used in lieu of 1.5, 2, 3 or 4 hour restrained thickness

⁴Refer to Assembly

**Contact Isolatek Technical

N/A=Not Available



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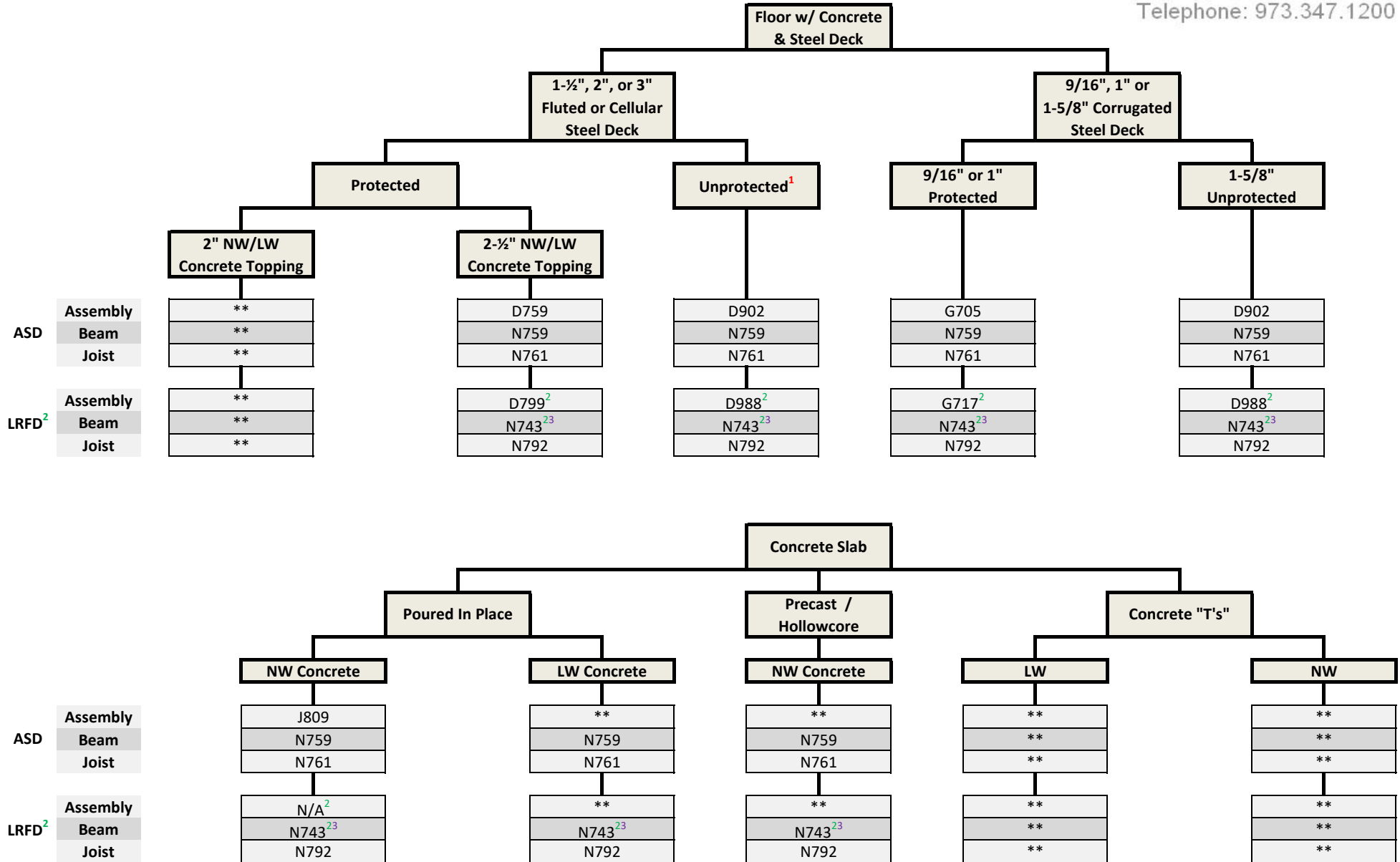
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²Refer to Assembly

³CAFCO 304/404

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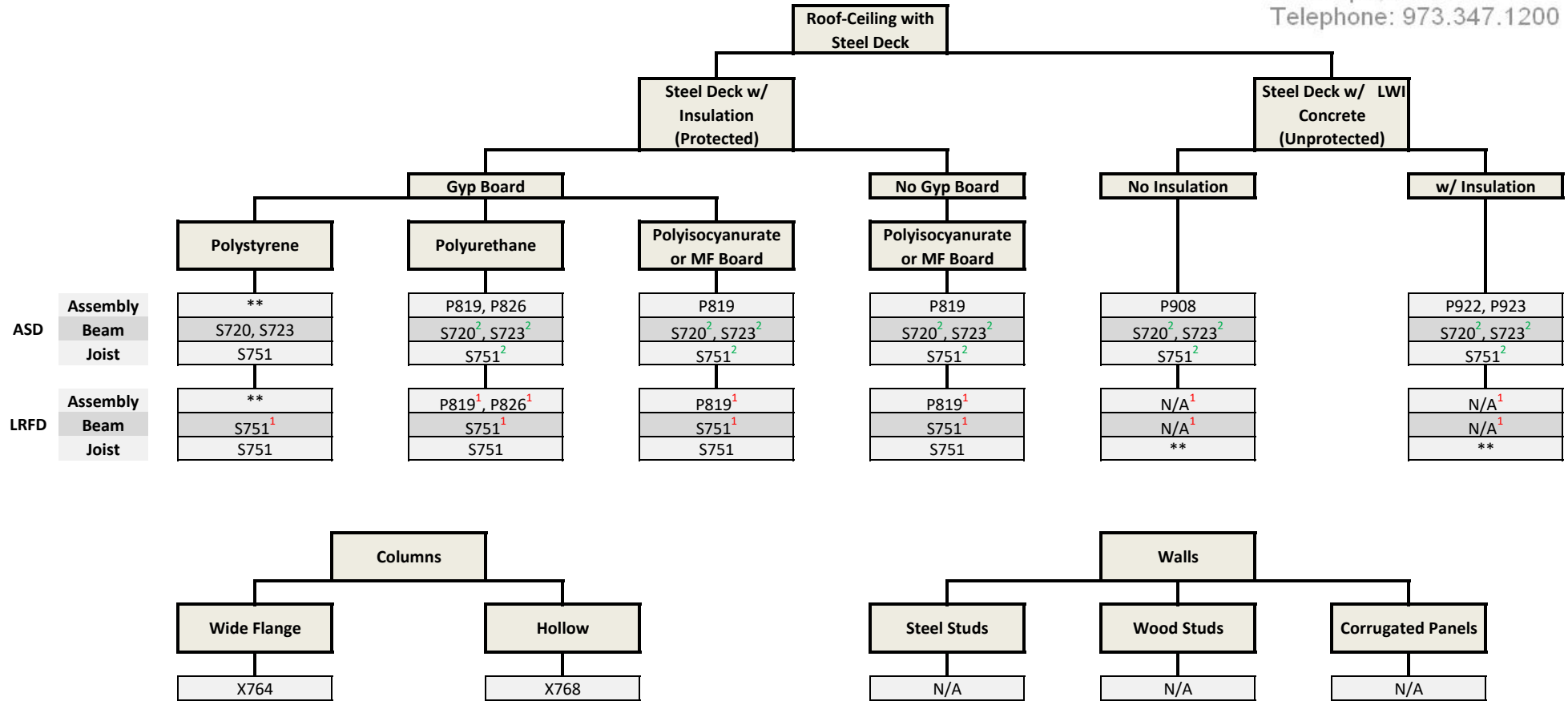
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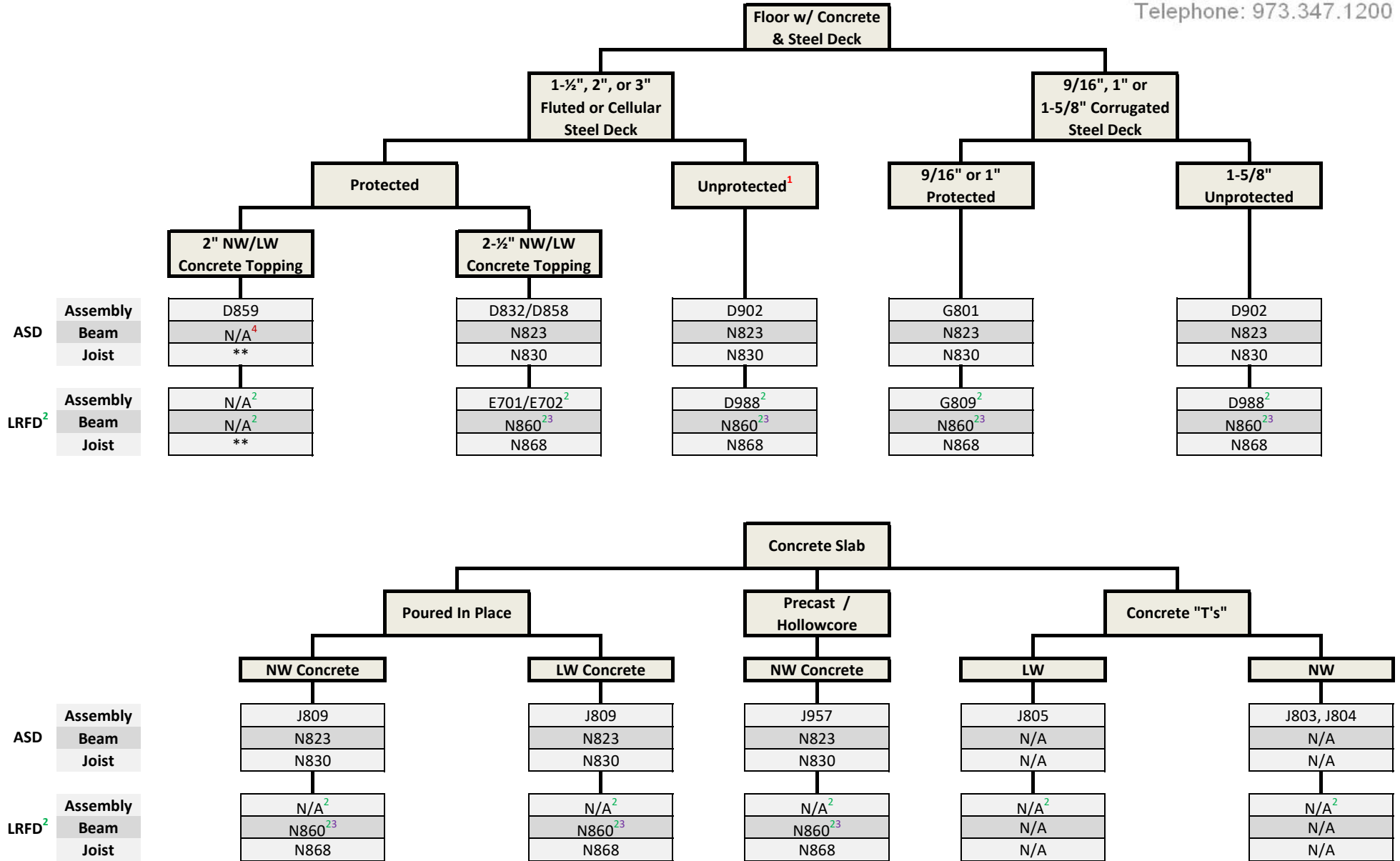
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²Refer to Assembly. You may be able to obtain most efficient thickness on beams and joists in the Assembly.

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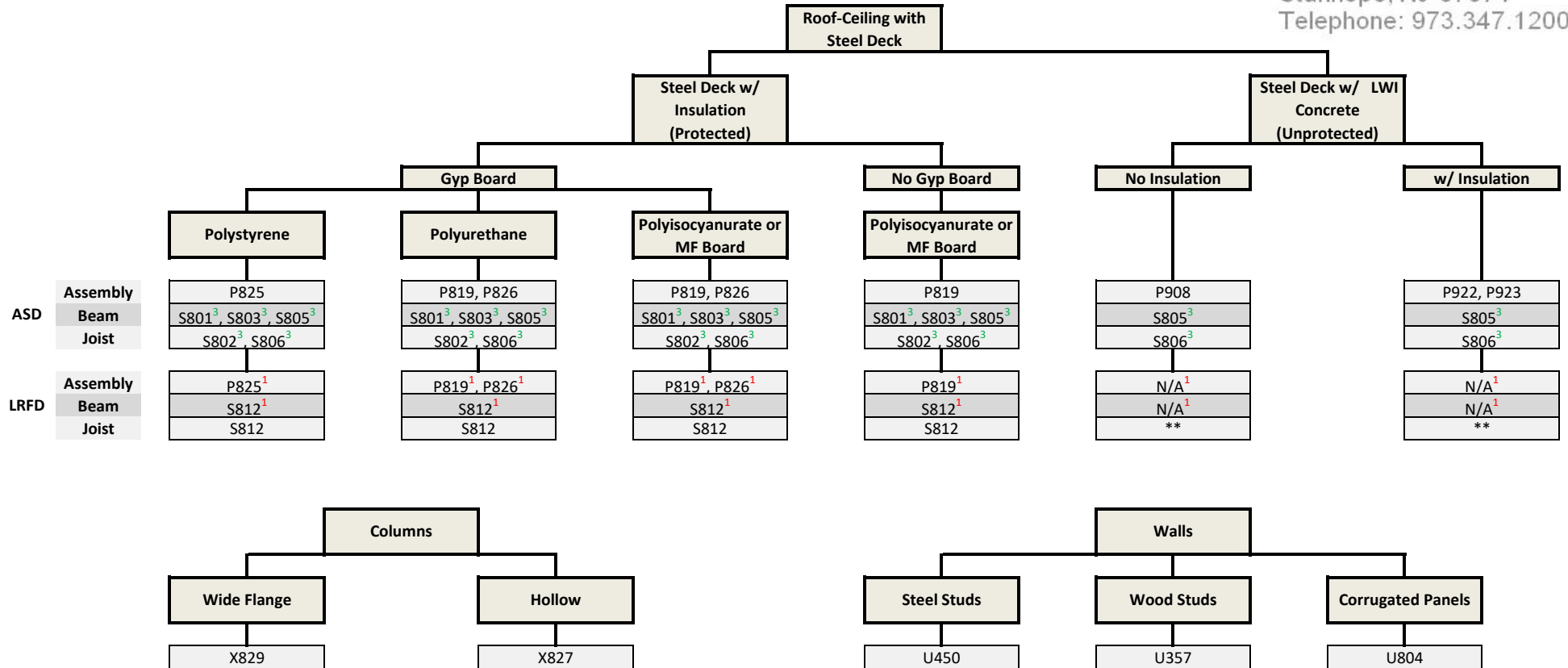
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³Refer to N823 unrestrained beam thicknesses for possible thickness reductions, which may be used in lieu of 1.5, 2, 3 or 4 hour restrained thickness

⁴Refer to Assembly

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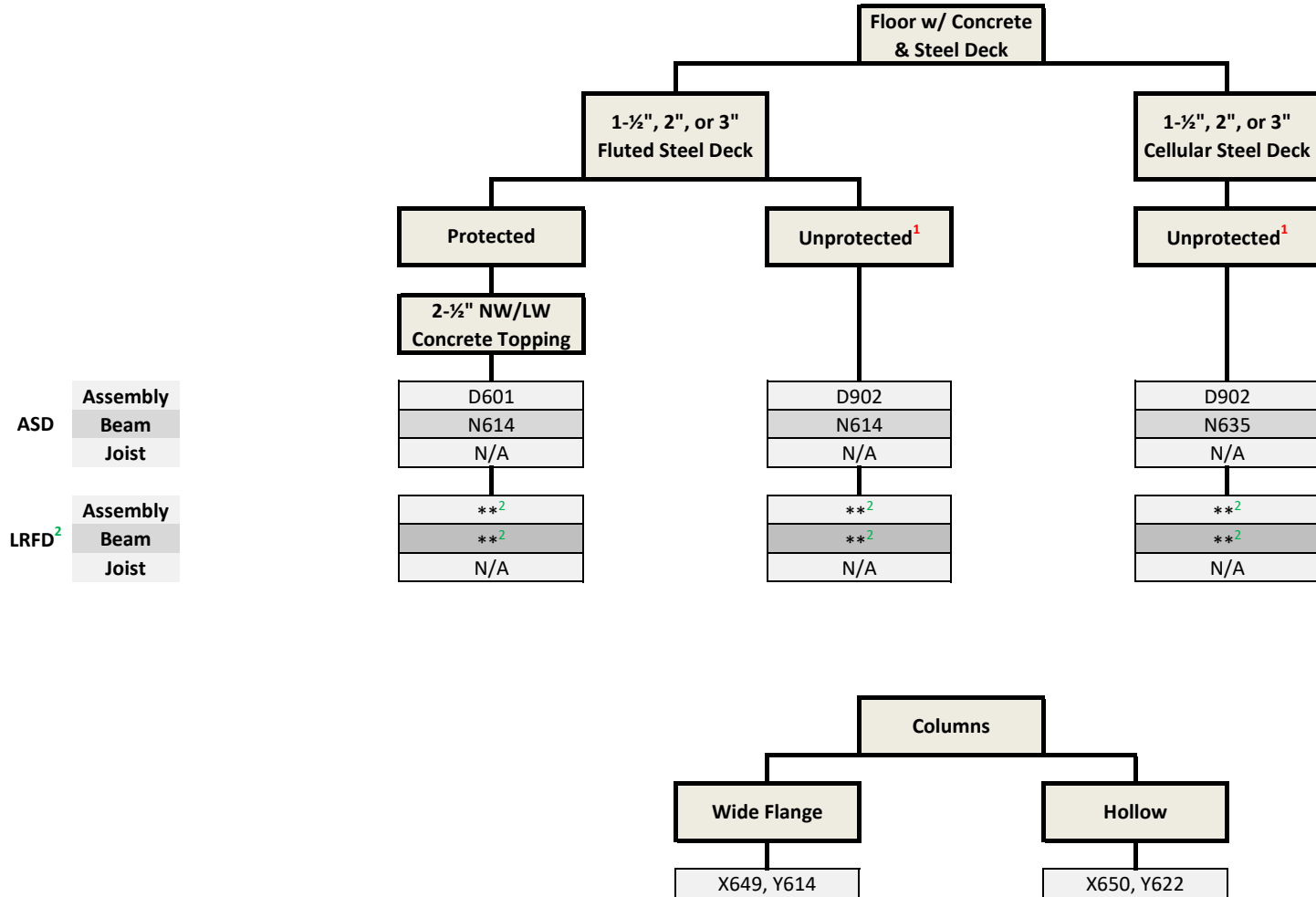
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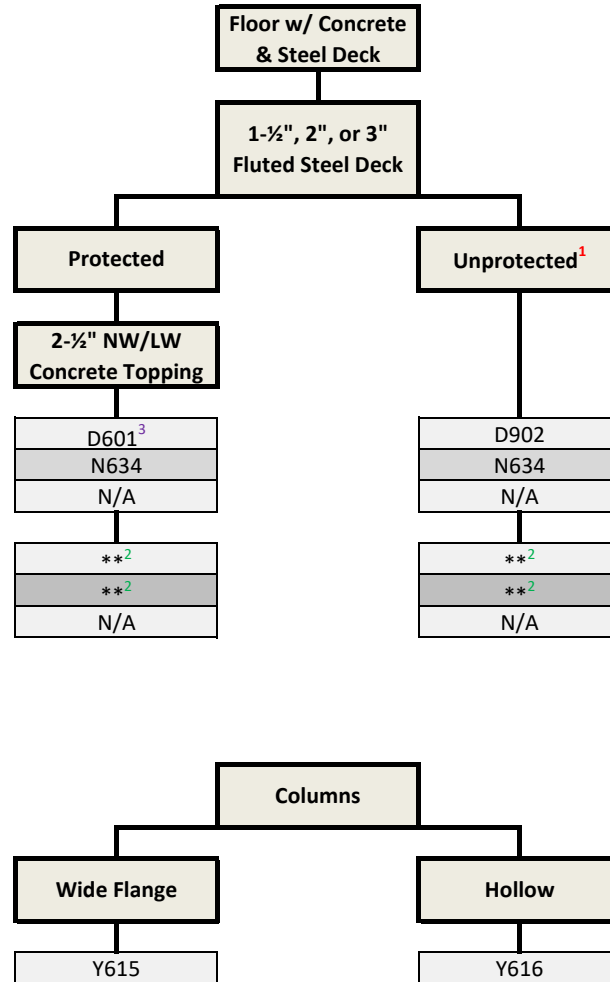
¹Refer to Design concrete tables to determine eligibility

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ASD	Assembly
	Beam
	Joist
LRFD ²	Assembly
	Beam
	Joist



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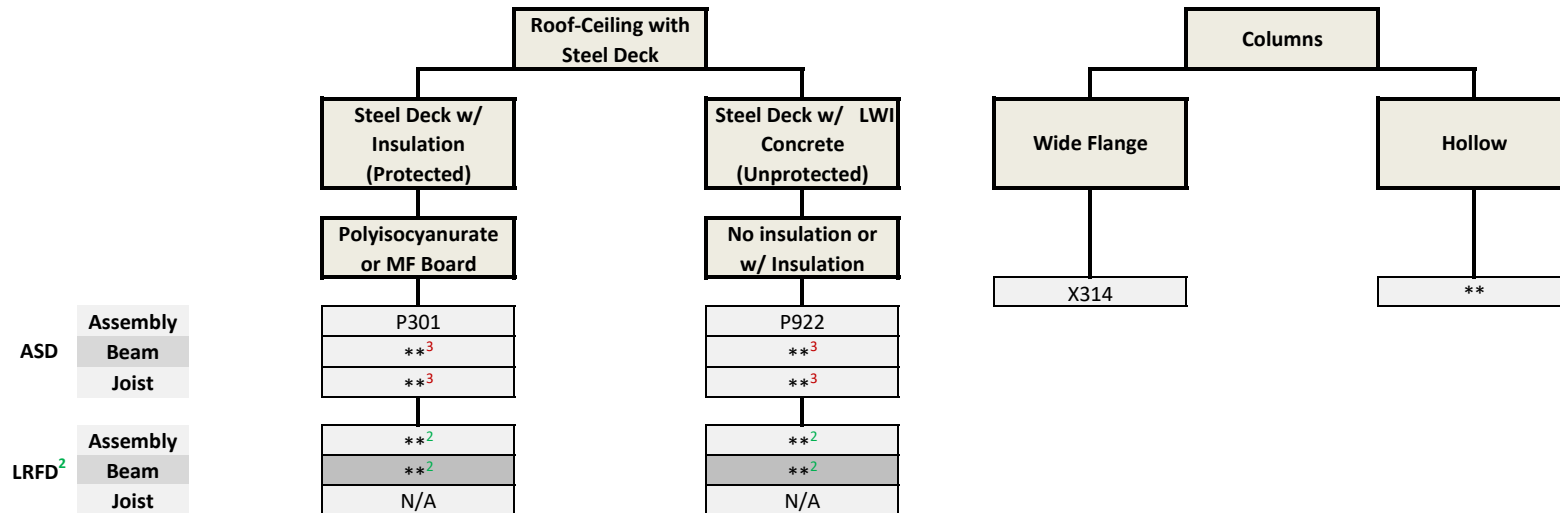
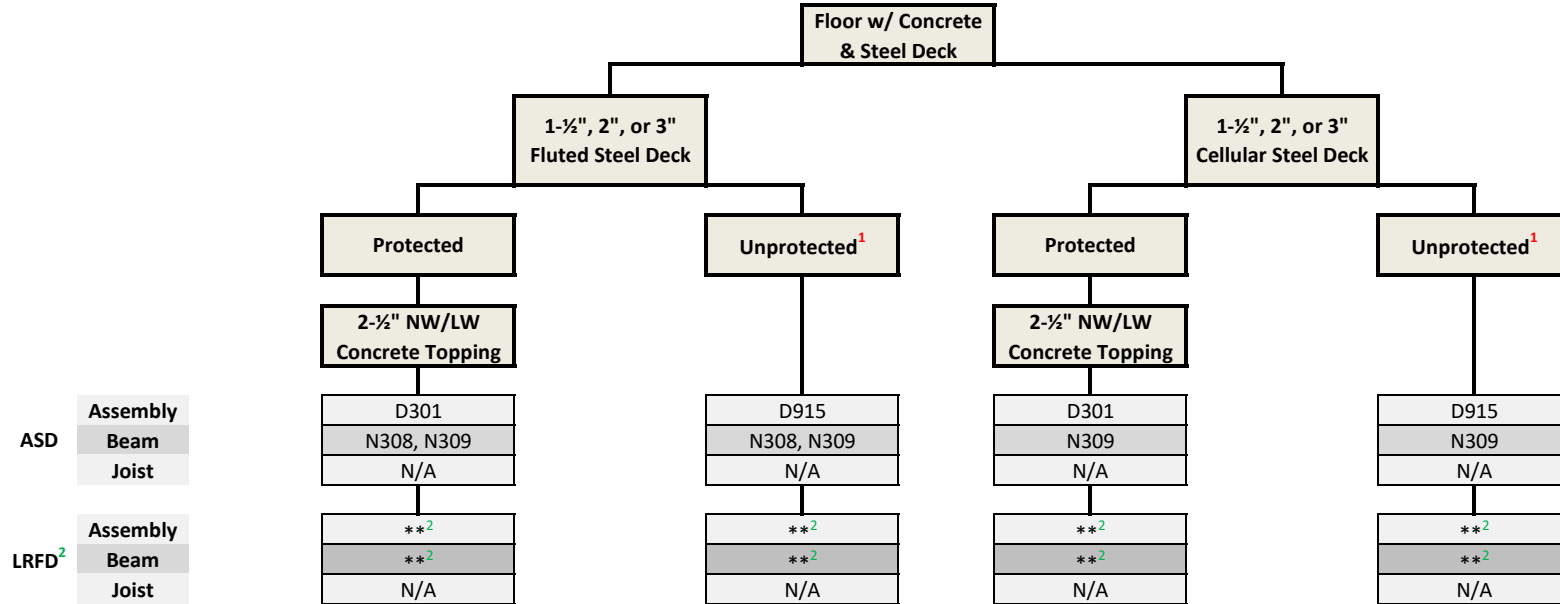
¹Refer to Design concrete tables to determine eligibility

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³SprayFilm WB 3 or WB 4 on underside of deck

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²Except for use in Canada, use only for 1.5+ hr. Restrained Assemblies / Restrained beams and with all joists. Otherwise for all 1 hr ratings and all Unrestrained Assemblies / Beams, refer to 'ASD' Designs

³Refer to Assembly

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N/A=Not Available

SFRMs

DESIGN NO.	LRFD	RATING (HR), Unrestrained	CAFCO® BLAZE-SHIELD® II, II HS & HP	CAFCO® 300, 300AC, 300ES, HS, 3000, 400, 400AC,	CAFCO® FENDOLITE® M-II & TG	Notes
FLOOR & CEILING ASSEMBLIES						
A811		1½, 2 hr.	◆			Closed cell deck. "back to back deck".
A815		3 hr.	◆			Closed cell deck. "back to back deck".
D744		1,1½, 2, 3 hr.			◆	Old M-II deck design. **Now Use D759**
D759		1,1½, 2, 3 hr.		◆	◆	Most widely used "Wet spray" protected floor assembly.
D781		1,1½, 2, 3, 4 hr.			◆	Use for 3 & 4 hour M-II on underside of deck. Only design with 4 hour fire rating. Requires 3.4 lath. Use beams from N759.
D799	●	1,1½, 2, 3 hr.		◆	◆	Non Load Restricted equal to D759.
D832		1,1½, 2, 3 hr.	◆			Max 3 hour. General Thickness Table same as D858. Variations in electrified deck, compared to D858.
D858		1,1½, 2, 3, 4 hr.	◆			Max 4 hour. General Thickness Table same as D832. Variations in electrified deck, compared to D832.
D859		1,1½, 2, 3 hr.	◆	◆		Minimum 2" deck with 2" concrete topping.
D860		1,1½, 2 hr.	◆	◆		3-1/4" LW over deck. LW concrete only. Lower compressive strength @ 2500 psi. Thickness advantages for 3 & 4 hour restrained assemblies.
D902		1,1½, 2, 3 hr.	◆	◆	◆	Best unprotected assembly for all products.
D988	●	1,1½, 2, 3 hr.	◆	◆	◆	Non Load Restricted equal to D902.
D904		1,1½ hr.	◆	◆		Dovetail deck.
D942		1,1½ hr.	◆	◆		Dovetail deck.
D947		1,1½ hr.	◆	◆		Dovetail deck.
E701	●	1,1½, 2, 3 hr.	◆			Non Load Restricted equal to old D832 (before common general thickness table updates).
E702	●	1,1½, 2, 3, 4 hr.	◆			Non Load Restricted equal to old D858 (before common general thickness table updates).
G705		1,1½, 2, 3 hr.		◆	◆	Corrugated deck
G717	●	1,1½, 2, 3 hr.		◆	◆	Non Load Restricted equal to G705.
G801		1,1½, 2, 3 hr.	◆			Corrugated deck
G802		1,1½, 2 hr.	◆			Hambro
G805		1,1½, 2 hr.	◆			Vescom
G809	●	1,1½, 2, 3 hr.	◆			Non Load Restricted equal to G801.

SFRMs

DESIGN NO.	LRFD	RATING (HR), Unrestrained	CAFCO® BLAZE-SHIELD® II, II HS & HP	CAFCO® 300, 300AC, 300ES, HS, 3000, 400, 400AC,	CAFCO® FENDOLITE® M-II & TG	Notes
CONCRETE FLOOR ASSEMBLIES						
J708		1, 1½, 2, 3 hr.		◆		Use only for LW concrete slab @ 5" thickness.
J710		1 hr.		◆		Unprotected concrete beam.
J801		1½ hr.	◆			4" deep hollow slab.
J803		1 hr.	◆			Unprotected concrete beam.
J804		2, 3, 4 hr.	◆	◆		NW precast Concrete system. Use worst case thickness on concrete stems/beams.
J805		2, 3, 4 hr.	◆	◆		LW precast Concrete system. Use worst case thickness on concrete stems/beams.
J809		1, 1½, 2, 3, 4 hr.	◆	◆	◆	Main NW concrete slab UL Design for NW concrete only.
J957		1, 2 hr.	◆	◆		Hollow Core Slabs 8", 10", 12".
FLOOR BEAMS						
N742		1, 1½, 2, 3, 4 hr.			◆	Unprotected deck. Beam only. **Now use N759**
N743	●	1, 1½, 2, 3, 4 hr.		◆	◆	Beams. Non Load Restricted equal to N759. Contains M-II.
N755		1, 1½, 2, 3, 4 hr.			◆	**Now use N759**
N759		1, 1½, 2, 3, 4 hr.		◆	◆	Unprotected deck. Beam. Main UL Design for CAFCO 300 and 400 Series.
N760		1, 1½, 2, 3 hr. (Joists)			◆	**Now use N761**
N761		1, 1½, 2, 3 hr. (Joists)		◆	◆	Unprotected Deck. Joists. Min 8k1, 10k1, 12k5
N792	●	1, 1½, 2, 3 hr. (Joists)		◆	◆	Joists. Non Load Restricted equal to N761. Contains joist spacing 4' OC or Less.
N805		1, 2, 3, 4 hr.	◆			Protected Deck. Fluted, corrugated and cellular. Use N823 for all but 4 hour NW. Use Best T/2 option fluted 3 and 4 hr NW and 2, 3, and 4 hr. NW cellular. N823 for all LW.
N815		1, 1½, 2, 3 hr.	◆			Contains Fluted, Cellular and Corrugated deck. Unprotected deck. Use for all T/2 option. Refer to N805 for some advantages on protected deck.
N816		1, 1½, 2, 3, 4 hr.	◆			Unprotected deck. Refer to N805/N815 for t/2 or N805/N823 for full flange.
N820		1, 1½, 2, 3, 4 hr.	◆			Unprotected deck. Refer to N805/N815 for t/2 or N805/N823 for full flange.
N823		1, 1½, 2, 3, 4 hr.	◆			Unprotected Deck. Contains Fluted, Cellular and Corrugated deck. Full flange. N805 has protected deck 4 hour advantage.
N826		1, 1½, 2, 3 hr. (Joists)	◆			Unprotected Deck. Min 12k5 joists. Use N830 thicknesses for All Fluted Deck. May contain advantage for corrugated/cellular deck.
N830		1, 1½, 2, 3 hr. (Joists)	◆			Main UL Design used for joist substitution. Unprotected Deck Design. Min 8k1 joists. For 10k1 joists 4' OC or less, use N868.
N860	●	1, 1½, 2, 3, 4 hr.	◆			Beams. Non Load Restricted equal to N823. Use N868 for joists, not those listed in N860.
N868	●	1, 1½, 2, 3 hr.	◆			Joists. Non Load Restricted equal to N830. Contains thicknesses for 10k1 spacing 4' OC or less.

SFRMs

DESIGN NO.	LRFD	RATING (HR), Unrestrained	CAFECO® BLAZE-SHIELD® II, II HS & HP	CAFECO® 300, 300AC, 300ES, HS, 3000, 400, 400AC,	CAFECO® FENDOLITE® M-II & TG	Notes
ROOF ASSEMBLIES						
P301		1, 1½ hr.	◆	◆		Protected Deck Design. Allows for CB on deck and supporting members. Or CB on deck and SFRM on beam members.
P675		1 hr.		◆		Tectum
P676		1½, 2 hr.		◆		USG
P719		1, 1½, 2 hr.		◆		Protected Roof w/ gyp. S721 has same beam thicknesses.
P723		1, 1½, 2, 3 hr.		◆		Protected Roof w/ out Gyp Board. Only 3 hour option available. S721 has same beam thicknesses.
P801		1, 1½, 2 hr.	◆			Mineral & Fiber Board.
P807		2 hr.	◆			USG
P815		1, 1½, 2 hr.	◆			"Upside down deck". Sheathing direct to deck surface.
P819		1, 1½, 2, 3 hr.	◆		◆	Main Polyiso roof design. Best beam and joist thicknesses are in the assembly for Unrestrained Beams.
P825		1, 1½, 2 hr.	◆			Polystyrene w/ gyp. Use P719 for C300/C400. If no gyp use P723 or P819 no gyp/no insulation thickness.
P826		1, 1½, 2, 3 hr.	◆	◆	◆	Polyurethane w/ gyp. If no gyp use P723 or P819 no gyp/no insulation thickness.
INSULATING CONCRETE ROOF ASSEMBLIES						
P908		1, 1½, 2 hr.	◆	◆	◆	Insulating Concrete without insulation sandwich. Vermiculite, Cellular & Perlite Concrete.
P922		1, 1½, 2 hr.	◆	◆	◆	Insulating Concrete with or without foam plastic insulation sandwich. Vermiculite, Cellular & Perlite Concrete.
P923		1, 1½, 2 hr.	◆	◆		Insulating Concrete with or without foam plastic insulation sandwich. Cellular & Perlite Concrete.
ROOF BEAMS						
S720		1, 1½, 2, 3 hr.			◆	Unprotected deck beam only. W8x28 min.
S721		1, 1½, 2, 3, 4 hr.		◆		Protected deck. Beams and joists.
S723		1, 1½, 2, 3 hr.			◆	Unprotected deck beam only. W8x28 min. Use S721.
S729		1, 1½, 2, 3, 4 hr.		◆		Unprotected deck beams and joists
S751	●	1, 1½, 2, 3, 4 hr.		◆	◆	Beams and joists. Non Load Restricted equal to S721.
S801		1, 1½, 2, 3 hr.	◆			Unprotected Deck. Beams. Best 3 hour.
S802		1, 1½, 2 hr.	◆			Protected deck. Joists. Min. 12k3.
S803		1, 1½, 2, 3, 4 hr.	◆			Unprotected Deck. Beams. Best 1, 1.5, and 2 hour. Has 4 hour.
S805		1, 1½, 2, 3, 4 hr.	◆			Protected deck. Beams. Use P-Series Assembly thicknesses for unrestrained joists.
S806		1, 1½, 2 hr.	◆			Unprotected deck. Joists. Min. 12k5. Use P-Series Assembly thicknesses for unrestrained joists.
S812	●	1, 1½, 2, 3, 4 hr.	◆			Beams and joists. Non Load Restricted equal to S805 & S806.

SFRMs

DESIGN NO.	LRFD	RATING (HR), Unrestrained	CAFCO® BLAZE-SHIELD® II, II HS & HP	CAFCO® 300, 300AC, 300ES, HS, 3000, 400, 400AC,	CAFCO® FENDOLITE® M-II & TG	Notes
WALLS AND PARTITIONS						
U357		1, 2 hr.	◆			Wood studs with gyp.
U401		4 hr.	◆			Plaster walls with wire stud setup.
U431		4 hr.	◆			Plaster walls with steel studs.
U450		1, 3, 4 hr.	◆			Steel studs and gyp.
U804		1, 1½, 2, 3, 4 hr.	◆			Wall Panels "Butler Building".
COLUMNS						
X764	N/A	1, 1½, 2, 3, 4 hr.			◆	Main Wide Flange Design for Type M-II.
X768	N/A	1, 1½, 2, 3, 4 hr.			◆	Main Tube steel or pipe Design for Type M-II.
X790	N/A	1, 1½, 2, 3, 4 hr.		◆		Main wide flange, tube steel and pipe design for Types 300 and 400 Series.
X827	N/A	1, 1½, 2, 3, 4 hr.	◆			Main Tube steel or pipe Design for Type II.
X829	N/A	1, 1½, 2, 3, 4 hr.	◆			Main Wide Flange Design for Type II.
X835	N/A	3/4, 1, 1½, 2, 3, 4 hr.	◆			Use X827.
X840	N/A	2, 3 hr.	◆			Large "Built Up" Tube steel and plate girder design for Type II. 2 and 3 hour only.
X841	N/A	1, 1½, 2, 3, 4 hr.	◆			Concrete filled pipe column.
Y729	N/A	1, 1½, 2, 3, 4 hr.		◆		Repeat Design. 3 & 4 hour advantage with W/D > 2.52. C300 Series Only.
XR704	N/A	3/4, 1, 1½, 2, 2½, 3, 4 hr.			◆	Archived Design. Use XR729 & XR730.
XR725	N/A	3/4, 1, 1½, 2, 2½, 3, 4 hr.			◆	Type M-II/P Design.
XR729	N/A	3/4, 1, 1½, 2, 2½, 3, 4 hr.			◆	New lath Design for Type M-II.
XR730	N/A	3/4, 1, 1½, 2, 2½, 3, 4 hr.			◆	New Mesh Design for Type M-II .
XR739	N/A	3/4, 1, 1½, 2, 2½, 3, 4 hr.			◆	New Mesh Design for Type M-II/P .

IFRMs

DESIGN NO.	LRFD	RATING (HR), Unrestrained	CAFECO® SprayFilm® WB 3 & WB 4	CAFECO® SprayFilm® WB 5	Notes
FLOOR & CEILING ASSEMBLIES					
D601		1, 1½, 2 hr.	◆	◆	
D902		1, 1½, 2, 3 hr.	◆	◆	Unprotected Assembly. Use N-Series thickness for unrestrained beams.
D977		1, 1½ hr.	◆		
FLOOR BEAMS					
K918		1, 1½, 2 hr.	◆		
FLOOR BEAMS					
N614		1, 1½, 2 hr.	◆		Fluted Deck.
N634		1, 1½, 2 hr.		◆	Corrugated/Cellular Deck.
N635		1, 1½, 2 hr.	◆		Fluted Deck.
COLUMNS					
X649		1, 1½, 2, 3, 4 hr.	◆		Wide Flange Columns.
X650		1, 1½, 2, 3 hr.	◆		Hollow Columns.
Y615		1, 1½, 2, 3 hr.		◆	Wide Flange Columns.
Y616		1, 1½, 2, 3 hr.		◆	Hollow Columns.
Y622		1, 1½, 2, 3, 4 hr.	◆		Thick Tube Steel Members. 5/8" to 3" wall thickness. Reduced Thicknesses for large tubes.
Y626		2 hr.		◆	Project Specific UL Design.

Rigid Boards

DESIGN NO.	LRFD	RATING (HR), Unrestrained	CAFCO-BOARD®	Notes
FLOOR & CEILING ASSEMBLIES				
D301		3 hr.	◆	Protected floor assembly
D915		1½, 2 hr.	◆	
G533		2 hr.	◆	
CONCRETE FLOOR ASSEMBLIES				
I502		2 hr.	◆	
FLOOR BEAMS				
N308		1, 1½, 2 hr.	◆	Up to 2 hour only.
N309		3 hr.	◆	Only use for 3 hour.
ROOF ASSEMBLIES				
P301		1, 1½ hr.	◆	Protected roof assembly. Joists available in this design.
INSULATING CONCRETE ROOF ASSEMBLIES				
P922		1, 1½, 2 hr.	◆	Insulating Concrete with or without foam plastic insulation sandwich. Vermiculite, Cellular & Perlite Concrete.
WALLS AND PARTITIONS				
U419		1, 2, 3, 4 hr.	◆	
COLUMNS				
X314		1, 2, 3, 4 hr.	◆	Wide Flange Columns.