

## STEELS TABLE

### STEELS ACCORDING TO MANUFACTURERS' SPECIFICATIONS:

Steels, whose features are stated by the specifications of each manufacturing mill, not by EN 10297.

#### CHEMICAL ANALYSIS FOR STEELS ACCORDING TO MANUFACTURERS' SPECIFICATIONS

Steelgrade	CHEMICAL ELEMENTS (% on mass)																							
	C		Si		Mn		P	S	Cr		Mo		Ni		Al		Cu	N	Nb	Ti	V		W	
	Min.	Max.	Min.	Max.	Min.	Max.	Max.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Max.	Max.	Max.	Max.	Min.	Max.	Min.	Max.
<b>Forterior® 630 ImpactFIT 40<sup>1</sup></b>	0.16	0.22	0.10	0.50	1.30	1.70	0.030	0.035	-	0.30	-	0.08	-	0.40	0.010	0.060	0.25	0.020	0.05	0.03	0.08	0.15	-	-
<b>Forterior® 650<sup>2</sup></b>	0.20	0.25	0.15	0.50	0.70	1.30	0.025	0.010	-	0.30	-	-	-	-	0.010	0.060	-	0.012	-	-	-	-	-	-
<b>FineXcell® 690 ImpactFIT 40</b>	-	0.20	0.15	0.50	-	1.70	0.025	0.015	-	1.00	0.30	0.45	0.30	0.70	0.020	-	0.25	0.015	0.05	0.05	-	0.12	-	-
<b>FineXcell® 690 ImpactFIT 50</b>	-	0.20	-	0.60	-	1.70	0.025	0.015	-	1.50	-	0.70	-	1.50	-	0.060	0.50	0.020	0.05	0.05	-	0.14	-	-
<b>FineXcell® 700 ImpactFIT 40</b>	0.14	0.18	0.20	0.50	1.20	1.70	0.025	0.015	-	0.80	0.20	0.40	-	0.40	0.015	0.050	0.25	0.020	0.05	0.05	0.05	0.12	0.10	0.35
<b>FineXcell® 700 ImpactFIT 50</b>	-	0.15	0.10	0.50	-	1.40	0.020	0.010	0.40	0.60	0.20	0.65	1.00	1.50	-	0.020	0.25	0.015	0.05	0.05	-	0.10	-	-
<b>FineXcell® 700 ImpactFIT 60</b>	0.14	0.18	0.20	0.50	1.20	1.70	0.025	0.015	-	0.80	0.20	0.40	-	0.40	0.015	0.050	0.25	0.020	0.05	0.05	0.05	0.12	0.10	0.70
<b>FineXcell® 700 TempFIT 300</b>	0.14	0.18	0.20	0.50	1.20	1.70	0.025	0.015	-	0.80	0.20	0.40	-	0.40	0.015	0.050	0.25	0.020	0.05	0.05	0.05	0.12	0.10	0.70
<b>FineXcell® 770 ImpactFIT 40*</b>	0.14	0.18	0.20	0.50	1.20	1.70	0.025	0.015	-	0.80	0.20	0.40	-	0.40	0.015	0.050	0.25	0.020	0.05	0.05	0.05	0.12	-	-
<b>FineXcell® 790 ImpactFIT 40</b>	-	0.18	0.20	0.50	1.20	1.70	0.020	0.010	0.40	1.00	0.20	0.50	0.70	1.70	-	0.020	0.25	0.020	0.05	-	-	0.10	-	-
<b>FineXcell® 800 ImpactFIT 40</b>	0.10	0.18	0.20	0.50	1.20	1.70	0.025	0.015	0.40	0.90	0.20	0.50	-	0.40	0.015	0.050	0.30	0.020	0.06	0.05	0.03	0.12	0.10	0.80
<b>FineXcell® 890 ImpactFIT 50<sup>3</sup></b>	-	0.18	-	0.50	-	1.60	0.020	0.010	0.50	0.80	0.20	0.70	1.00	1.70	0.020	0.25	0.020	0.05	-	-	0.10	-	-	-
<b>FineXcell® 900 ImpactFIT 40</b>	0.14	0.18	0.20	0.50	1.20	1.70	0.020	0.010	0.40	0.90	0.30	0.70	-	0.40	0.015	0.050	0.35	0.020	0.06	0.05	0.03	0.12	-	-
<b>FineXcell® 960 ImpactFIT 40</b>	0.14	0.18	0.20	0.50	1.20	1.70	0.020	0.010	0.40	0.90	0.30	0.70	-	0.40	0.015	0.050	0.35	0.020	0.06	0.05	0.03	0.12	0.40	0.80

<sup>1</sup>V+Nb < 0.20%; V + Nb + Ti < 0.22%.

<sup>2</sup>0.020% < Ti > 0.050%; 0.0010% < B > 0.0050%.

<sup>3</sup>B ≤ 0.0008%; W ≤ 1.50%; Zr ≤ 0.15%.





MECHANICAL PROPERTIES FOR STEELS ACCORDING TO MANUFACTURERS' SPECIFICATIONS

Steelgrade	Delivery condition	Yield strength min. (ReH) (N/mm <sup>2</sup> =Mpa)							Tensile strength min./max. (Rm) (N/mm <sup>2</sup> =Mpa)				Long. elongation min. %	Long. impact values (J min.) ^				
		For nominal w.t. in mm							For nominal w.t. in mm					Temperature °C				
		≤12	>12 ≤25	>25 ≤40	>40 ≤50	>50 ≤65	>65 ≤80	>80 ≤100	≤25	>25 ≤50	>50 ≤80	>80 ≤100		-20	-30	-40	-50	-60
<b>Forterior® 630 ImpactFIT 40</b>	+QT	630	610	580	540	500	470	-	740 930	690 860	620 790	-	16	-	-	27	-	-
<b>Forterior® 650*</b>	+AR	400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		For nominal w.t. in mm							For nominal w.t. in mm					Temperature °C				
		≤16	>16 ≤20	>20 ≤40	>40 ≤50	>50 ≤65	>65 ≤80	>80 ≤100	≤20	>20 ≤40	>40 ≤65	>65 ≤100		-20	-30	-40	-50	-60
<b>FineXcell® 690</b>	+QT	690	690	650	615	580	540	500	770 960	720 900	670 850	620 800	16	40	-	-	-	-
<b>FineXcell® 690 ImpactFIT 40</b>	+QT	690	690	650	-	-	-	-	770 960	720 900	-	-	16	-	-	40	-	-
<b>FineXcell® 690 ImpactFIT 50</b>	+QT	690	690	-	-	-	-	-	700 960	-	-	-	14	-	-	-	27	-
		For nominal w.t. in mm							For nominal w.t. in mm					Temperature °C				
		≤12	>12 ≤20	>20 ≤40	>40 ≤50	>50 ≤65	>65 ≤80	>80 ≤100	≤20	>20 ≤40	>40 ≤65	>65 ≤100		-20	-30	-40	-50	-60
<b>FineXcell® 700</b>	+QT	700	690	690	650	615	580	540	770 960	770 960	700 880	680 860	16	50	-	-	-	-
<b>FineXcell® 700 ImpactFIT 40</b>	+QT	700	690	650	615	580	-	-	770 960	720 900	670 850	-	16	-	-	27	-	-
<b>FineXcell® 700 ImpactFIT60</b>	+QT	700	690	690	650	615	-	-	770 960	770 960	700 880	-	16	-	-	-	-	25
<b>FineXcell® 700 TempFIT 300</b>	+QT	700 510 a +300°C	690 510 a +300°C	690 510 a +300°C	650 470 a +300°C	650 470 a +300°C	-	-	770 960 620 a +300°C	770 960 620 a +300°C	700 880 570 a +300°C	-	16	50	-	-	-	-
<b>FineXcell® 770</b>	+QT	770	750	700	670	640	600	560	820 1000	770 950	720 900	680 860	15	35	-	-	-	-
<b>FineXcell® 780 ImpactFIT 40</b>	+QT	780	770	700	670	640	-	-	820 1000	770 950	720 900	-	15	-	-	27	-	-
<b>FineXcell® 790</b>	+QT	790	790	730	710	700	690	670	850 1030	880 980	770 950	720 900	15	40	-	-	-	-
<b>FineXcell® 800 ImpactFIT 40</b>	+QT	800	790	730	710	700	-	-	850 1030	800 1080	770 950	-	15	-	-	27	-	-
<b>FineXcell® 890</b>	+QT	890	890	850	820	800	-	-	960 1110	920 1070	870 1040	-	14	45	-	-	-	-
		For nominal w.t. in mm							For nominal w.t. in mm					Temperature °C				
		≤16	>16 ≤20	-	-	-	-	-	≤16	>16 ≤20	-	-		-20	-30	-40	-50	-60
<b>FineXcell® 890 ImpactFIT 50</b>	+QT	890	850	-	-	-	-	-	960 1110	920 1070	-	-	14	-	-	-	27	-
		For nominal w.t. in mm							For nominal w.t. in mm					Temperature °C				
		≤12	>12 ≤20	>20 ≤40	>40 ≤50	>50 ≤65	>65 ≤80	>80 ≤100	≤20	>20 ≤40	>40 ≤50	>50 ≤100		-20	-30	-40	-50	-60
<b>FineXcell® 900 ImpactFIT 40</b>	+QT	900	890	850	820	-	-	-	960 1110	920 1070	870 1040	-	14	-	-	35	-	-
		For nominal w.t. in mm							For nominal w.t. in mm					Temperature °C				
		≤16	-	-	-	-	-	-	≤16	-	-	-		-20	-30	-40	-50	-60
<b>FineXcell® 960 ImpactFIT 40</b>	+QT	960	-	-	-	-	-	-	980 1150	-	-	-	10	-	-	27	-	-

\*This steelgrade is usually supplied as rolled followed by heat treatment. The mechanical properties stated here are only approximate.

^ The impact values can vary according to the supplied w.t.. At the time of the order it is possible to specify another temperature at which the test has to be effected.