

# Raw Material and Energy Powder Surcharges 2019 - USD/lb.

(applicable at time of shipment)



If an alloy you purchase is not listed, call Carpenter within the U.S. at 800-654-6543.  
Outside the U.S., call 1-610-208-2000, press 2 for Customer Service.

## Chrome-based (powder products)

| Alloy Description             | Jan  | Feb  | Mar  | Apr  | May  | Jun  | Jul  | Aug  | Sep  | Oct  | Nov  | Dec  |
|-------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| CarTech Micro-Melt® NiCr49Nb1 | 3.41 | 3.38 | 3.52 | 3.56 | 3.32 | 2.94 | 2.90 | 3.15 | 3.68 | 4.17 | 4.02 | 3.36 |
| UltraFine® 17Cr-4Ni MA 3X     | 2.46 | 2.35 | 2.32 | 2.30 | 2.11 | 1.86 | 1.83 | 1.79 | 1.87 | 1.94 | 1.90 | 1.62 |
| CarTech UltraFine® 316 MA     | 3.85 | 3.77 | 3.93 | 4.02 | 3.75 | 3.40 | 3.39 | 3.52 | 3.96 | 4.34 | 4.21 | 3.42 |
| CarTech UltraFine® 420 MA     | 1.82 | 1.65 | 1.52 | 1.47 | 1.28 | 1.13 | 1.10 | 0.95 | 0.89 | 0.82 | 0.81 | 0.65 |

## Cobalt-based (powder products)

| Alloy Description                | Jan   | Feb   | Mar  | Apr  | May  | Jun  | Jul  | Aug  | Sep  | Oct   | Nov   | Dec  |
|----------------------------------|-------|-------|------|------|------|------|------|------|------|-------|-------|------|
| CarTech Micro-Melt® 1            | 14.33 | 9.13  | 4.93 | 2.95 | 4.27 | 4.49 | 3.01 | 2.64 | 2.91 | 5.24  | 5.15  | 4.09 |
| CarTech Micro-Melt® 12           | 15.34 | 9.48  | 4.68 | 2.41 | 3.93 | 4.21 | 2.51 | 2.09 | 2.37 | 5.03  | 5.00  | 3.99 |
| CarTech Micro-Melt® 188          | 12.74 | 8.63  | 5.47 | 3.96 | 4.98 | 5.05 | 3.88 | 3.79 | 4.26 | 6.35  | 6.15  | 4.93 |
| CarTech Micro-Melt® 188B         | 12.74 | 8.63  | 5.47 | 3.96 | 4.98 | 5.05 | 3.88 | 3.79 | 4.26 | 6.35  | 6.15  | 4.93 |
| CarTech Micro-Melt® 1B           | 15.18 | 9.59  | 5.09 | 2.95 | 4.38 | 4.62 | 3.03 | 2.65 | 2.93 | 5.44  | 5.36  | 4.26 |
| CarTech Micro-Melt® 21           | 15.25 | 9.05  | 3.89 | 1.49 | 3.15 | 3.46 | 1.63 | 1.18 | 1.53 | 4.45  | 4.54  | 3.67 |
| CarTech Micro-Melt® 50Nb         | 14.07 | 8.42  | 3.73 | 1.52 | 3.03 | 3.27 | 1.60 | 1.22 | 1.61 | 4.33  | 4.39  | 3.58 |
| CarTech Micro-Melt® 6            | 11.61 | 7.02  | 3.22 | 1.42 | 2.61 | 2.81 | 1.46 | 1.13 | 1.37 | 3.48  | 3.49  | 2.81 |
| CarTech Micro-Melt® 6LF          | 15.90 | 9.45  | 4.06 | 1.52 | 3.25 | 3.58 | 1.67 | 1.22 | 1.56 | 4.57  | 4.61  | 3.75 |
| CarTech Micro-Melt® 9810         | 15.73 | 9.37  | 4.08 | 1.58 | 3.29 | 3.60 | 1.72 | 1.29 | 1.63 | 4.60  | 4.64  | 3.77 |
| CarTech Micro-Melt® A4783        | 13.17 | 8.10  | 3.95 | 1.97 | 3.35 | 3.53 | 2.01 | 1.82 | 2.29 | 4.87  | 4.84  | 3.97 |
| CarTech Micro-Melt® BioDur® CCM® | 21.71 | 15.22 | 9.85 | 6.94 | 9.09 | 9.52 | 7.60 | 5.18 | 7.19 | 10.26 | 10.26 | 9.46 |
| CarTech Micro-Melt® CCM          | 15.19 | 9.00  | 3.84 | 1.45 | 3.10 | 3.41 | 1.59 | 1.11 | 1.44 | 4.31  | 4.41  | 3.55 |
| CarTech Micro-Melt CCM® GADS     | 15.19 | 9.00  | 3.84 | 1.45 | 3.10 | 3.41 | 1.59 | 1.11 | 1.44 | 4.31  | 4.41  | 3.55 |
| CarTech Micro-Melt® CCM PLUS®    | 15.19 | 9.00  | 3.84 | 1.45 | 3.10 | 3.41 | 1.59 | 1.11 | 1.44 | 4.31  | 4.41  | 3.55 |
| CarTech Micro-Melt® F            | 11.47 | 7.87  | 5.11 | 3.78 | 4.64 | 4.66 | 3.63 | 3.55 | 4    | 5.85  | 5.68  | 4.56 |
| CarTech Micro-Melt® F75          | 15.84 | 9.36  | 3.95 | 1.44 | 3.18 | 3.51 | 1.60 | 1.11 | 1.44 | 4.46  | 4.56  | 3.68 |
| CarTech Micro-Melt® G155         | 16.64 | 10.39 | 5.49 | 3.37 | 4.99 | 5.37 | 3.64 | 3.07 | 3.44 | 6.27  | 6.38  | 4.89 |
| CarTech Micro-Melt® G185         | 15.00 | 9.29  | 4.62 | 2.40 | 3.92 | 4.15 | 2.47 | 2.16 | 2.59 | 5.35  | 5.30  | 4.30 |
| CarTech Micro-Melt® G190         | 14.79 | 9.47  | 5.37 | 3.62 | 4.92 | 5.21 | 3.77 | 3.23 | 3.54 | 5.89  | 5.98  | 4.56 |
| CarTech Micro-Melt® G195         | 10.38 | 6.63  | 3.58 | 2.10 | 3.10 | 3.13 | 1.97 | 1.96 | 2.57 | 4.76  | 4.71  | 3.94 |
| CarTech Micro-Melt® HS31         | 14.95 | 9.26  | 4.61 | 2.40 | 3.91 | 4.14 | 2.47 | 2.16 | 2.58 | 5.34  | 5.29  | 4.29 |
| CarTech Micro-Melt® Merl72       | 14.93 | 9.97  | 5.87 | 3.92 | 5.08 | 5.15 | 3.42 | 3.13 | 3.56 | 5.94  | 5.87  | 4.92 |
| CarTech Micro-Melt® Mo1          | 14.63 | 9.27  | 4.94 | 2.93 | 4.28 | 4.52 | 2.99 | 2.58 | 2.84 | 5.23  | 5.18  | 4.09 |
| CarTech Micro-Melt® P1316        | 15.11 | 9.31  | 4.56 | 2.31 | 3.85 | 4.09 | 2.39 | 2.08 | 2.5  | 5.31  | 5.28  | 4.28 |
| CarTech Micro-Melt® P1318        | 15.11 | 9.31  | 4.56 | 2.31 | 3.85 | 4.09 | 2.39 | 2.08 | 2.5  | 5.31  | 5.28  | 4.28 |
| CarTech Micro-Melt® P694         | 15.51 | 10.39 | 6.43 | 4.51 | 5.65 | 5.75 | 4.31 | 4    | 4.29 | 6.55  | 6.36  | 5.00 |
| CarTech Micro-Melt® R31233       | 13.93 | 8.19  | 3.48 | 1.28 | 2.92 | 3.25 | 1.55 | 1.26 | 1.71 | 4.54  | 4.58  | 3.72 |
| CarTech Micro-Melt® TDCA         | 10.07 | 6.46  | 3.53 | 2.11 | 3.06 | 3.08 | 1.96 | 1.96 | 2.55 | 4.66  | 4.61  | 3.86 |
| CarTech Micro-Melt® WearCorr™    | 14.03 | 8.57  | 4.08 | 1.99 | 3.43 | 3.66 | 2.06 | 1.71 | 2.11 | 4.74  | 4.78  | 3.86 |

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|  |            |            |            |            |            |            |            |            |            |            |            |            |
|--|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| CarTech UltraFine CCM®                       | 15.19      | 9.00       | 3.84       | 1.45       | 3.10       | 3.41       | 1.59       | 1.11       | 1.44       | 4.31       | 4.41       | 3.55       |
| CarTech UltraFine® CCM PLUS®                 | 15.19      | 9.00       | 3.84       | 1.45       | 3.10       | 3.41       | 1.59       | 1.11       | 1.44       | 4.31       | 4.41       | 3.55       |
| CarTech UltraFine® CoCr                      | 16.13      | 9.52       | 4.01       | 1.44       | 3.22       | 3.56       | 1.61       | 1.11       | 1.46       | 4.54       | 4.64       | 3.75       |
| CarTech UltraFine® F-75HP                    | 15.84      | 9.37       | 3.97       | 1.46       | 3.19       | 3.53       | 1.62       | 1.12       | 1.46       | 4.47       | 4.58       | 3.69       |
| CarTech UltraFine® H25                       | 15.45      | 9.92       | 5.52       | 3.44       | 4.88       | 5.11       | 3.53       | 3.25       | 3.65       | 6.26       | 6.12       | 4.88       |
| Micro-Melt® Maraging 509B                    | 15.94      | 10.47      | 5.85       | 3.66       | 4.95       | 5.05       | 3.12       | 2.73       | 3.12       | 5.68       | 5.66       | 4.80       |
| CarTech Micro-Melt® CTS                      | 15.43      | 8.93       | 3.43       | 0.83       | 2.61       | 2.94       | 1.00       | 0.53       | 0.87       | 3.92       | 4.03       | 3.32       |
| Micro-Melt Biodur CCM® LS                    | 15.97      | 9.41       | 3.94       | 1.39       | 3.15       | 3.49       | 1.56       | 1.06       | 1.4        | 4.46       | 4.56       | 3.69       |
| Micro-Melt CCM® A764 Mod                     | 16.07      | 9.46       | 3.95       | 1.38       | 3.16       | 3.50       | 1.55       | 1.05       | 1.4        | 4.48       | 4.58       | 3.71       |
| CarTech Micro-Melt® CoWCr                    | 17.54      | 10.05      | 3.73       | 0.75       | 2.84       | 3.26       | 1.01       | 0.53       | 0.96       | 4.54       | 4.65       | 3.84       |
| CarTech UltraFine® FeCo50                    | 11.15      | 6.19       | 2.04       | 0.07       | 1.52       | 1.85       | 0.36       | 0.07       | 0.35       | 2.72       | 2.78       | 2.31       |
| CarTech Micro-Melt® CCM MC                   | 15.01      | 8.61       | 3.32       | 0.86       | 2.71       | 3.13       | 1.24       | 0.83       | 1.2        | 4.23       | 4.32       | 3.52       |
| <b>Cobalt/Nickel-based (powder products)</b> |            |            |            |            |            |            |            |            |            |            |            |            |
| <b>Alloy Description</b>                     | <b>Jan</b> | <b>Feb</b> | <b>Mar</b> | <b>Apr</b> | <b>May</b> | <b>Jun</b> | <b>Jul</b> | <b>Aug</b> | <b>Sep</b> | <b>Oct</b> | <b>Nov</b> | <b>Dec</b> |
| CarTech UltraFine® MP35N®                    | 10.06      | 6.62       | 4.03       | 2.83       | 3.77       | 3.83       | 2.82       | 2.86       | 3.52       | 5.57       | 5.50       | 4.49       |
| <b>Copper-based (powder products)</b>        |            |            |            |            |            |            |            |            |            |            |            |            |
| <b>Alloy Description</b>                     | <b>Jan</b> | <b>Feb</b> | <b>Mar</b> | <b>Apr</b> | <b>May</b> | <b>Jun</b> | <b>Jul</b> | <b>Aug</b> | <b>Sep</b> | <b>Oct</b> | <b>Nov</b> | <b>Dec</b> |
| CarTech Micro-Melt® C18200                   | 2.53       | 2.42       | 2.63       | 2.69       | 2.72       | 2.50       | 2.41       | 2.42       | 2.27       | 2.29       | 2.31       | 2.37       |
| CarTech Micro-Melt® CuNiSiCr                 | 2.54       | 2.46       | 2.70       | 2.78       | 2.80       | 2.56       | 2.48       | 2.55       | 2.51       | 2.62       | 2.60       | 2.58       |
| CarTech Micro-Melt® G72                      | 2.69       | 2.75       | 3.13       | 3.26       | 3.23       | 2.92       | 2.86       | 3.19       | 3.58       | 4.02       | 3.91       | 3.56       |
| CarTech UltraFine® CuNiSnP                   | 3.23       | 3.24       | 3.49       | 3.56       | 3.52       | 3.24       | 3.15       | 3.2        | 2.94       | 3.03       | 3.01       | 2.99       |
| CarTech UltraFine® C621                      | 2.88       | 2.86       | 3.11       | 3.18       | 3.17       | 2.91       | 2.82       | 2.89       | 2.75       | 2.86       | 2.84       | 2.80       |
| CarTech UltraFine® Cu15SnP                   | 3.24       | 3.22       | 3.45       | 3.52       | 3.50       | 3.22       | 3.12       | 3.14       | 2.83       | 2.87       | 2.86       | 2.90       |
| CarTech UltraFine® Cu-Electr.                | 2.51       | 2.40       | 2.61       | 2.67       | 2.71       | 2.49       | 2.40       | 2.41       | 2.26       | 2.29       | 2.30       | 2.36       |
| CarTech UltraFine® Copper-MIM                | 2.53       | 2.41       | 2.63       | 2.69       | 2.73       | 2.50       | 2.41       | 2.43       | 2.28       | 2.30       | 2.31       | 2.38       |
| UltraFine® C18000                            | 2.52       | 2.42       | 2.64       | 2.70       | 2.73       | 2.50       | 2.42       | 2.45       | 2.33       | 2.37       | 2.38       | 2.42       |
| <b>Iron-based (powder products)</b>          |            |            |            |            |            |            |            |            |            |            |            |            |
| <b>Alloy Description</b>                     | <b>Jan</b> | <b>Feb</b> | <b>Mar</b> | <b>Apr</b> | <b>May</b> | <b>Jun</b> | <b>Jul</b> | <b>Aug</b> | <b>Sep</b> | <b>Oct</b> | <b>Nov</b> | <b>Dec</b> |
| CarTech Micro-Melt® 5506                     | 2.10       | 2.00       | 2.06       | 2.11       | 1.97       | 1.81       | 1.80       | 1.83       | 2.02       | 2.16       | 2.10       | 1.69       |
| CarTech Micro-Melt® 654SMO                   | 1.67       | 1.60       | 1.77       | 1.88       | 1.85       | 1.76       | 1.77       | 1.88       | 2.13       | 2.34       | 2.26       | 1.84       |
| CarTech Micro-Melt® 904L                     | 1.61       | 1.59       | 1.79       | 1.89       | 1.86       | 1.74       | 1.74       | 1.93       | 2.26       | 2.54       | 2.44       | 2.03       |
| CarTech Micro-Melt® BS2766                   | 1.59       | 1.11       | 0.83       | 0.70       | 0.74       | 0.73       | 0.60       | 0.55       | 0.57       | 0.72       | 0.70       | 0.55       |
| CarTech Micro-Melt® Fe LC                    | 0.19       | 0.12       | 0.13       | 0.13       | 0.14       | 0.16       | 0.13       | 0.13       | 0.13       | 0.12       | 0.10       | 0.10       |
| CarTech Micro-Melt® Fe Powder                | 0.20       | 0.12       | 0.13       | 0.13       | 0.15       | 0.16       | 0.13       | 0.13       | 0.13       | 0.12       | 0.10       | 0.10       |
| CarTech Micro-Melt® LAW 100X                 | 0.19       | 0.12       | 0.13       | 0.13       | 0.15       | 0.16       | 0.13       | 0.13       | 0.13       | 0.12       | 0.10       | 0.10       |
| CarTech Micro-Melt® Sanicro 28               | 1.69       | 1.70       | 1.94       | 2.05       | 2.02       | 1.87       | 1.86       | 2.11       | 2.52       | 2.88       | 2.75       | 2.31       |
| CarTech Micro-Melt® 28                       | 1.69       | 1.70       | 1.94       | 2.05       | 2.02       | 1.87       | 1.86       | 2.11       | 2.52       | 2.88       | 2.75       | 2.31       |
| CarTech Micro-Melt NCORR®                    | 1.87       | 1.80       | 1.83       | 1.85       | 1.72       | 1.55       | 1.53       | 1.56       | 1.72       | 1.84       | 1.78       | 1.46       |
| CarTech Micro-Melt® FeCoTa                   | 28.28      | 23.85      | 18.51      | 16.11      | 15.49      | 14.36      | 9.39       | 7.97       | 8.1        | 9.19       | 9.43       | 10.07      |
| CarTech Micro-Melt® FeCoCrNi                 | 7.64       | 4.99       | 2.86       | 1.83       | 2.49       | 2.48       | 1.66       | 1.66       | 2.1        | 3.65       | 3.60       | 3.01       |
| CarTech Micro-Melt® FeCoTaMo                 | 24.42      | 19.10      | 13.83      | 11.50      | 11.79      | 11.26      | 7.49       | 6.38       | 6.62       | 8.45       | 8.65       | 8.36       |

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**Raw Material and Energy Powder Surcharges 2019 - USD/lb.**  
(applicable at time of shipment)



|                                |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| CarTech Micro-Melt® AFA25      | 2.15 | 2.13 | 2.34 | 2.39 | 2.28 | 2.10 | 2.08 | 2.25 | 2.56 | 2.83 | 2.67 | 2.26 |
| CarTech Micromelt® AFA25       | 2.15 | 2.13 | 2.34 | 2.39 | 2.28 | 2.10 | 2.08 | 2.25 | 2.56 | 2.83 | 2.67 | 2.26 |
| CarTech Micro-Melt Ferrium®M41 | 9.10 | 8.19 | 8.55 | 9.31 | 9.04 | 9.09 | 9.26 | 8.69 | 8.83 | 8.78 | 8.82 | 6.16 |
| CarTech Micro-Melt® 2507 SDplx | 1.51 | 1.42 | 1.42 | 1.45 | 1.33 | 1.21 | 1.21 | 1.18 | 1.24 | 1.29 | 1.27 | 0.99 |
| CarTech Micro-Melt® VeKo25Cr   | 3.47 | 2.97 | 2.89 | 2.70 | 2.17 | 1.76 | 1.55 | 1.48 | 1.39 | 1.36 | 1.32 | 1.01 |
| CarTech Micro-Melt® 1.4313     | 0.80 | 0.71 | 0.72 | 0.72 | 0.67 | 0.62 | 0.60 | 0.59 | 0.63 | 0.65 | 0.61 | 0.51 |
| Micro-Melt Aermet-for-tooling® | 3.59 | 2.28 | 1.28 | 0.80 | 1.15 | 1.18 | 0.78 | 0.78 | 1    | 1.73 | 1.70 | 1.42 |
| CarTech Micro-Melt® A-286      | 2.14 | 2.06 | 2.20 | 2.21 | 2.01 | 1.76 | 1.70 | 1.87 | 2.16 | 2.43 | 2.33 | 1.94 |

**Iron/Cobalt-based (powder products)**

| Alloy Description              | Jan   | Feb  | Mar  | Apr  | May  | Jun  | Jul  | Aug  | Sep  | Oct  | Nov  | Dec  |
|--------------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| CarTech Micro-Melt Hiperco® 50 | 11.91 | 6.93 | 2.85 | 0.85 | 2.05 | 2.22 | 0.69 | 0.39 | 0.62 | 2.92 | 2.98 | 2.45 |
| CarTech UltraFine Hiperco® 50  | 11.81 | 6.88 | 2.84 | 0.86 | 2.04 | 2.21 | 0.69 | 0.39 | 0.62 | 2.90 | 2.96 | 2.43 |
| Micro-Melt Hiperco® 50 HS      | 14.13 | 8.85 | 4.69 | 2.50 | 3.26 | 3.09 | 1.39 | 1.05 | 1.21 | 3.49 | 3.55 | 2.85 |

**Iron/Nickel (powder products)**

| Alloy Description        | Jan  | Feb  | Mar  | Apr  | May  | Jun  | Jul  | Aug  | Sep  | Oct  | Nov  | Dec  |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| CarTech UltraFine® GHS 4 | 2.71 | 2.67 | 2.96 | 3.06 | 2.91 | 2.65 | 2.61 | 2.91 | 3.41 | 3.87 | 3.71 | 3.05 |

**Nickel-based (powder products)**

| Alloy Description              | Jan  | Feb  | Mar  | Apr  | May  | Jun  | Jul  | Aug  | Sep  | Oct  | Nov  | Dec  |
|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| CarTech IN100                  | 4.00 | 4.02 | 4.40 | 4.60 | 4.39 | 4.02 | 4.02 | 4.38 | 5.11 | 5.74 | 5.55 | 4.52 |
| CarTech Micro-Melt® 230        | 6.31 | 5.66 | 5.56 | 5.47 | 5.46 | 5.17 | 5.01 | 5.36 | 6.03 | 6.84 | 6.50 | 5.24 |
| CarTech Micro-Melt® 247LC      | 8.03 | 6.95 | 6.32 | 5.97 | 6.02 | 5.65 | 5.01 | 5.37 | 6.21 | 7.36 | 7.07 | 6.00 |
| CarTech Micro-Melt®247LC Mod 1 | 7.86 | 6.80 | 6.18 | 5.85 | 5.93 | 5.58 | 4.94 | 5.33 | 6.19 | 7.36 | 7.06 | 6.01 |
| CarTech Micro-Melt® 282        | 5.79 | 4.82 | 4.33 | 4.11 | 4.24 | 3.96 | 3.66 | 3.98 | 4.77 | 5.91 | 5.74 | 4.71 |
| CarTech Micro-Melt® 50/50      | 3.31 | 3.37 | 3.60 | 3.66 | 3.42 | 3.01 | 2.99 | 3.3  | 3.9  | 4.43 | 4.26 | 3.57 |
| CarTech Micro-Melt® 600        | 3.05 | 3.28 | 3.77 | 3.93 | 3.77 | 3.35 | 3.33 | 3.96 | 4.92 | 5.79 | 5.53 | 4.69 |
| CarTech Micro-Melt® 622        | 4.57 | 4.52 | 4.92 | 5.14 | 4.95 | 4.60 | 4.61 | 4.97 | 5.7  | 6.34 | 6.11 | 4.92 |
| CarTech Micro-Melt® 622 AWS    | 4.64 | 4.58 | 4.97 | 5.20 | 4.99 | 4.65 | 4.65 | 5    | 5.73 | 6.37 | 6.15 | 4.95 |
| CarTech Micro-Melt® 625        | 3.50 | 3.52 | 3.92 | 4.08 | 3.88 | 3.55 | 3.55 | 3.87 | 4.51 | 5.07 | 4.84 | 3.97 |
| CarTech Micro-Melt® 625+W      | 4.11 | 4.19 | 4.68 | 4.86 | 4.63 | 4.24 | 4.24 | 4.67 | 5.46 | 6.15 | 5.88 | 4.91 |
| CarTech Micro-Melt® 625AM      | 4.35 | 4.43 | 4.96 | 5.15 | 4.92 | 4.51 | 4.51 | 4.98 | 5.82 | 6.57 | 6.28 | 5.24 |
| CarTech Micro-Melt® 625Ar      | 4.35 | 4.43 | 4.96 | 5.15 | 4.92 | 4.51 | 4.51 | 4.98 | 5.82 | 6.57 | 6.28 | 5.24 |
| CarTech Micro-Melt® 625LF      | 4.33 | 4.41 | 4.93 | 5.13 | 4.90 | 4.49 | 4.49 | 4.96 | 5.8  | 6.54 | 6.25 | 5.21 |
| CarTech Micro-Melt® 625M       | 4.46 | 4.53 | 5.09 | 5.28 | 5.04 | 4.63 | 4.63 | 5.09 | 5.93 | 6.67 | 6.36 | 5.33 |
| CarTech Micro-Melt® 713C       | 3.39 | 3.57 | 4.07 | 4.27 | 4.11 | 3.70 | 3.70 | 4.28 | 5.22 | 6.06 | 5.82 | 4.86 |
| CarTech Micro-Melt® 718        | 3.41 | 3.50 | 3.95 | 4.06 | 3.86 | 3.52 | 3.50 | 3.9  | 4.56 | 5.16 | 4.88 | 4.17 |
| CarTech Micro-Melt® 80/20      | 3.28 | 3.51 | 4.01 | 4.17 | 4.00 | 3.54 | 3.53 | 4.16 | 5.16 | 6.06 | 5.80 | 4.91 |
| CarTech Micro-Melt® 825        | 2.21 | 2.31 | 2.67 | 2.82 | 2.76 | 2.52 | 2.51 | 2.92 | 3.56 | 4.13 | 3.95 | 3.34 |
| CarTech Micro-Melt® A4777      | 2.99 | 3.26 | 3.82 | 4.01 | 3.87 | 3.44 | 3.43 | 4.13 | 5.19 | 6.15 | 5.87 | 4.99 |
| CarTech Micro-Melt® A4778      | 3.06 | 3.40 | 4.04 | 4.25 | 4.13 | 3.68 | 3.67 | 4.48 | 5.67 | 6.76 | 6.44 | 5.48 |
| CarTech Micro-Melt® A4779      | 3.13 | 3.47 | 4.12 | 4.34 | 4.22 | 3.76 | 3.74 | 4.57 | 5.79 | 6.90 | 6.58 | 5.59 |
| CarTech Micro-Melt® A4782      | 3.01 | 3.22 | 3.66 | 3.80 | 3.64 | 3.22 | 3.21 | 3.77 | 4.66 | 5.47 | 5.22 | 4.42 |

Carpenter reserves the right to change base values and/or add producer premiums to accurately reflect the changes in raw material markets and prices.

**Raw Material and Energy Powder Surcharges 2019 - USD/lb.**  
(applicable at time of shipment)



|                               |       |      |      |      |      |      |      |      |      |      |      |      |
|-------------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| CarTech Micro-Melt® B27       | 3.15  | 3.49 | 4.15 | 4.37 | 4.25 | 3.78 | 3.77 | 4.61 | 5.83 | 6.95 | 6.63 | 5.63 |
| CarTech Micro-Melt® B40       | 3.07  | 3.34 | 3.90 | 4.08 | 3.94 | 3.50 | 3.49 | 4.19 | 5.25 | 6.22 | 5.94 | 5.04 |
| CarTech Micro-Melt® B56       | 2.98  | 3.22 | 3.71 | 3.88 | 3.73 | 3.31 | 3.29 | 3.93 | 4.89 | 5.77 | 5.51 | 4.67 |
| CarTech Micro-Melt® B60+      | 2.94  | 3.17 | 3.64 | 3.80 | 3.64 | 3.24 | 3.22 | 3.82 | 4.75 | 5.60 | 5.35 | 4.53 |
| CarTech Micro-Melt® C-276     | 4.88  | 4.80 | 5.24 | 5.51 | 5.33 | 5.00 | 5.01 | 5.38 | 6.16 | 6.82 | 6.58 | 5.27 |
| CarTech Micro-Melt® C-901     | 3.96  | 4.00 | 4.43 | 4.66 | 4.47 | 4.12 | 4.12 | 4.53 | 5.32 | 6.01 | 5.81 | 4.73 |
| CarTech Micro-Melt® G142      | 3.04  | 3.26 | 3.73 | 3.88 | 3.72 | 3.30 | 3.28 | 3.88 | 4.8  | 5.65 | 5.40 | 4.57 |
| CarTech Micro-Melt® G173      | 6.94  | 5.96 | 5.25 | 4.85 | 4.89 | 4.47 | 3.78 | 4.14 | 5.02 | 6.25 | 6.06 | 5.31 |
| CarTech Micro-Melt® G183      | 5.72  | 4.84 | 4.45 | 4.24 | 4.37 | 4.09 | 3.81 | 4.21 | 5.04 | 6.18 | 5.94 | 4.89 |
| CarTech Micro-Melt® G186      | 6.21  | 4.86 | 4.00 | 3.57 | 3.86 | 3.62 | 3.17 | 3.53 | 4.35 | 5.73 | 5.56 | 4.63 |
| CarTech Micro-Melt® G192      | 3.05  | 3.24 | 3.66 | 3.80 | 3.63 | 3.22 | 3.20 | 3.74 | 4.61 | 5.39 | 5.16 | 4.37 |
| CarTech Micro-Melt® G202      | 3.41  | 3.49 | 3.94 | 4.05 | 3.86 | 3.51 | 3.50 | 3.89 | 4.56 | 5.15 | 4.87 | 4.16 |
| CarTech Micro-Melt® G207      | 3.20  | 3.46 | 3.98 | 4.16 | 3.99 | 3.54 | 3.53 | 4.2  | 5.23 | 6.17 | 5.90 | 5.00 |
| CarTech Micro-Melt® G81       | 3.01  | 3.22 | 3.66 | 3.80 | 3.64 | 3.22 | 3.21 | 3.77 | 4.66 | 5.47 | 5.22 | 4.42 |
| CarTech Micro-Melt® GHS-4     | 3.03  | 2.98 | 3.23 | 3.33 | 3.11 | 2.81 | 2.77 | 3.03 | 3.52 | 3.96 | 3.82 | 3.12 |
| CarTech Micro-Melt® HX        | 3.40  | 3.39 | 3.70 | 3.86 | 3.69 | 3.40 | 3.40 | 3.69 | 4.28 | 4.79 | 4.63 | 3.76 |
| CarTech Micro-Melt® HyMu 800  | 3.22  | 3.44 | 4.03 | 4.26 | 4.14 | 3.75 | 3.75 | 4.42 | 5.47 | 6.41 | 6.14 | 5.14 |
| CarTech Micro-Melt® IN738     | 6.32  | 5.41 | 4.86 | 4.55 | 4.62 | 4.27 | 3.79 | 4.14 | 4.95 | 6.07 | 5.86 | 4.98 |
| CarTech Micro-Melt® MAR-M-247 | 8.45  | 7.28 | 6.54 | 6.16 | 6.22 | 5.84 | 5.15 | 5.49 | 6.32 | 7.49 | 7.20 | 6.11 |
| CarTech Micro-Melt® N5A       | 5.87  | 4.53 | 3.62 | 3.13 | 3.42 | 3.18 | 2.72 | 3.06 | 3.83 | 5.16 | 5.00 | 4.22 |
| CarTech Micro-Melt® N5A/N5B   | 5.83  | 4.49 | 3.56 | 3.08 | 3.36 | 3.13 | 2.67 | 3    | 3.75 | 5.07 | 4.91 | 4.14 |
| CarTech Micro-Melt® N5B       | 5.74  | 4.39 | 3.45 | 2.95 | 3.24 | 3.02 | 2.56 | 2.86 | 3.58 | 4.87 | 4.72 | 3.97 |
| CarTech Micro-Melt® NFM 24    | 6.30  | 4.77 | 3.72 | 3.19 | 3.55 | 3.35 | 2.84 | 3.18 | 4    | 5.45 | 5.28 | 4.43 |
| CarTech Micro-Melt® NiCoCrMo  | 6.70  | 5.13 | 4.08 | 3.57 | 3.92 | 3.71 | 3.21 | 3.52 | 4.33 | 5.77 | 5.61 | 4.66 |
| CarTech Micro-Melt® NiCrMoAl  | 3.38  | 3.57 | 4.08 | 4.29 | 4.15 | 3.75 | 3.75 | 4.34 | 5.3  | 6.16 | 5.91 | 4.94 |
| CarTech Micro-Melt® NiCrMoB   | 4.22  | 4.30 | 4.81 | 5.09 | 4.91 | 4.53 | 4.54 | 5.03 | 5.94 | 6.74 | 6.51 | 5.30 |
| CarTech Micro-Melt® TDCA/TDCB | 9.18  | 6.01 | 3.46 | 2.23 | 3.05 | 3.02 | 2.03 | 2.08 | 2.67 | 4.60 | 4.54 | 3.80 |
| CarTech Micro-Melt® TDCB      | 7.47  | 5.15 | 3.35 | 2.45 | 3.02 | 2.91 | 2.18 | 2.31 | 2.92 | 4.51 | 4.41 | 3.70 |
| CarTech UltraFine® 713C       | 3.38  | 3.56 | 4.06 | 4.25 | 4.09 | 3.69 | 3.69 | 4.26 | 5.2  | 6.05 | 5.80 | 4.85 |
| CarTech UltraFine® 718        | 2.76  | 2.85 | 3.19 | 3.31 | 3.17 | 2.85 | 2.84 | 3.23 | 3.89 | 4.48 | 4.30 | 3.59 |
| CarTech UltraFine® Alloy X    | 3.20  | 3.05 | 3.25 | 3.35 | 3.23 | 2.94 | 2.89 | 3.15 | 3.82 | 4.42 | 4.25 | 3.35 |
| CarTech UltraFine® HX         | 3.80  | 3.65 | 3.85 | 3.96 | 3.83 | 3.54 | 3.49 | 3.79 | 4.42 | 5.03 | 4.86 | 3.96 |
| CarTech UltraFine® K500       | 5.96  | 6.14 | 7.31 | 7.34 | 6.98 | 6.47 | 6.46 | 7.09 | 7.93 | 8.69 | 7.91 | 7.23 |
| CarTech UltraFine® NiCoCrAlY  | 6.78  | 4.68 | 3.10 | 2.30 | 2.90 | 2.82 | 2.13 | 2.41 | 3.15 | 4.79 | 4.67 | 3.95 |
| CarTech Micro-Melt® BRB       | 4.93  | 4.21 | 3.88 | 3.66 | 3.79 | 3.46 | 3.17 | 3.69 | 4.65 | 5.92 | 5.70 | 4.82 |
| CarTech Micro-Melt® G204      | 3.00  | 3.28 | 3.84 | 4.03 | 3.90 | 3.46 | 3.45 | 4.16 | 5.23 | 6.20 | 5.91 | 5.02 |
| CarTech Micro-Melt® Waspaloy  | 6.07  | 4.85 | 4.10 | 3.72 | 3.95 | 3.69 | 3.29 | 3.64 | 4.45 | 5.75 | 5.58 | 4.64 |
| CarTech Micro-Melt® A914      | 6.84  | 5.14 | 3.98 | 3.36 | 3.85 | 3.62 | 3.01 | 3.54 | 4.6  | 6.41 | 6.19 | 5.24 |
| CarTech Micro-Melt® 5 Fe      | 10.36 | 6.61 | 3.61 | 2.15 | 3.20 | 3.22 | 2.05 | 2.16 | 2.9  | 5.24 | 5.16 | 4.33 |
| CarTech Micro-Melt® 725       | 4.01  | 4.10 | 4.61 | 4.79 | 4.58 | 4.19 | 4.19 | 4.65 | 5.46 | 6.18 | 5.90 | 4.95 |
| CarTech UltraFine® 625        | 4.35  | 4.43 | 4.96 | 5.15 | 4.92 | 4.51 | 4.51 | 4.98 | 5.82 | 6.57 | 6.28 | 5.24 |

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# Raw Material and Energy Powder Surcharges 2019 - USD/lb.

(applicable at time of shipment)



|                               |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| CarTech UltraFine® Fe-50Ni    | 1.75 | 1.90 | 2.25 | 2.37 | 2.31 | 2.07 | 2.05 | 2.5  | 3.14 | 3.73 | 3.55 | 3.02 |
| CarTech Micro-Melt® L1        | 4.65 | 4.66 | 5.15 | 5.33 | 5.11 | 4.72 | 4.72 | 5.14 | 5.92 | 6.61 | 6.30 | 5.22 |
| CarTech Micro-Melt® Ni-24.5Cr | 3.31 | 3.68 | 4.38 | 4.61 | 4.48 | 3.99 | 3.97 | 4.86 | 6.16 | 7.34 | 7.00 | 5.95 |
| CarTech Micro-Melt® HX-1LC    | 3.92 | 3.71 | 3.86 | 3.95 | 3.84 | 3.55 | 3.50 | 3.78 | 4.4  | 5.02 | 4.86 | 3.95 |
| CarTech Micro-Melt® R95       | 5.77 | 5.05 | 4.89 | 4.72 | 4.78 | 4.47 | 4.22 | 4.67 | 5.52 | 6.61 | 6.31 | 5.29 |
| CarTech Micro-Melt® R125-1    | 8.22 | 7.06 | 6.30 | 5.91 | 5.96 | 5.58 | 4.87 | 5.17 | 5.98 | 7.15 | 6.90 | 5.90 |
| CarTech Micro-Melt® C263      | 7.40 | 5.53 | 4.23 | 3.60 | 4.01 | 3.83 | 3.24 | 3.49 | 4.26 | 5.77 | 5.63 | 4.65 |
| CarTech Micro-Melt® 718 AM    | 3.38 | 3.47 | 3.92 | 4.03 | 3.83 | 3.49 | 3.48 | 3.87 | 4.54 | 5.13 | 4.86 | 4.15 |
| CarTech Micro-Melt® 690       | 3.04 | 3.18 | 3.52 | 3.63 | 3.44 | 3.04 | 3.02 | 3.47 | 4.22 | 4.89 | 4.69 | 3.96 |
| CarTech Micro-Melt® 82        | 3.50 | 3.71 | 4.24 | 4.38 | 4.18 | 3.73 | 3.72 | 4.32 | 5.26 | 6.11 | 5.81 | 4.96 |
| Micro-Melt® STAL18SILAY       | 7.07 | 6.45 | 6.03 | 5.79 | 5.64 | 5.16 | 4.50 | 4.83 | 5.66 | 6.64 | 6.42 | 5.62 |
| CarTech Micro-Melt® 738 LC    | 6.30 | 5.47 | 5.03 | 4.76 | 4.80 | 4.44 | 3.99 | 4.37 | 5.2  | 6.31 | 6.08 | 5.18 |
| CarTech Micro-Melt® 263       | 7.60 | 5.67 | 4.33 | 3.69 | 4.12 | 3.97 | 3.39 | 3.63 | 4.39 | 5.92 | 5.78 | 4.80 |
| CarTech Micro-Melt® HX LC     | 3.80 | 3.65 | 3.85 | 3.96 | 3.83 | 3.54 | 3.49 | 3.79 | 4.42 | 5.03 | 4.86 | 3.96 |
| CarTech Micro-Melt® HX-4      | 3.79 | 3.64 | 3.84 | 3.94 | 3.82 | 3.52 | 3.48 | 3.78 | 4.4  | 5.01 | 4.84 | 3.94 |
| CarTech Micro-Melt® R77       | 6.25 | 4.90 | 4.04 | 3.60 | 3.90 | 3.66 | 3.22 | 3.58 | 4.41 | 5.79 | 5.62 | 4.68 |
| CarTech Micro-Melt® 109 Mod   | 7.84 | 5.97 | 4.59 | 3.88 | 4.23 | 4.00 | 3.29 | 3.51 | 4.23 | 5.68 | 5.51 | 4.69 |
| CarTech Micro-Melt® Ni60H     | 2.97 | 3.20 | 3.67 | 3.83 | 3.68 | 3.26 | 3.25 | 3.85 | 4.79 | 5.63 | 5.38 | 4.56 |
| CarTech Micro-Melt® 625F-1    | 4.23 | 4.30 | 4.80 | 4.99 | 4.76 | 4.37 | 4.37 | 4.8  | 5.6  | 6.30 | 6.02 | 5.02 |
| CarTech Micro-Melt® 792       | 7.80 | 6.77 | 6.06 | 5.69 | 5.68 | 5.28 | 4.56 | 4.85 | 5.67 | 6.78 | 6.57 | 5.69 |
| CarTech Micro-Melt® NiCrAlY   | 2.97 | 3.15 | 3.57 | 3.70 | 3.54 | 3.14 | 3.12 | 3.65 | 4.49 | 5.26 | 5.03 | 4.26 |
| CarTech Micro-Melt® 720       | 6.41 | 5.01 | 4.11 | 3.66 | 3.94 | 3.72 | 3.27 | 3.6  | 4.38 | 5.71 | 5.53 | 4.60 |
| CarTech UltraFine® Ni20Cr     | 3.34 | 3.58 | 4.09 | 4.26 | 4.08 | 3.62 | 3.60 | 4.26 | 5.28 | 6.20 | 5.93 | 5.02 |
| CarTech UltraFine® NiCrMo     | 3.15 | 2.99 | 3.12 | 3.18 | 3.09 | 2.84 | 2.78 | 3.02 | 3.53 | 4.05 | 3.91 | 3.21 |
| CarTech UltraFine® 90         | 6.62 | 5.00 | 3.86 | 3.27 | 3.64 | 3.41 | 2.86 | 3.22 | 4.05 | 5.58 | 5.41 | 4.56 |
| CarTech UltraFine® M400       | 3.03 | 3.24 | 3.78 | 3.96 | 3.89 | 3.48 | 3.44 | 4.04 | 4.88 | 5.69 | 5.46 | 4.77 |
| CarTech UltraFine® R77        | 6.24 | 4.89 | 4.03 | 3.59 | 3.88 | 3.65 | 3.21 | 3.56 | 4.39 | 5.77 | 5.59 | 4.66 |
| UltraFine® Maraging 247       | 8.18 | 7.02 | 6.32 | 5.95 | 6.03 | 5.67 | 5.03 | 5.38 | 6.2  | 7.37 | 7.07 | 5.98 |
| CarTech UltraFine® HyMu 800   | 3.22 | 3.44 | 4.03 | 4.26 | 4.14 | 3.75 | 3.75 | 4.42 | 5.47 | 6.41 | 6.14 | 5.14 |
| CarTech Micro-Melt® 75        | 2.78 | 3.04 | 3.59 | 3.78 | 3.69 | 3.30 | 3.29 | 3.99 | 5.01 | 5.95 | 5.67 | 4.83 |

## Tool Steel (powder products)

| Alloy Description               | Jan  | Feb  | Mar  | Apr  | May  | Jun  | Jul  | Aug  | Sep  | Oct  | Nov  | Dec  |
|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| CarTech Micro-Melt Custom 470®  | 0.71 | 0.67 | 0.76 | 0.79 | 0.79 | 0.75 | 0.73 | 0.82 | 0.96 | 1.09 | 1.03 | 0.88 |
| CarTech Micro-Melt® 100         | 0.99 | 0.89 | 0.95 | 1.00 | 1.00 | 0.98 | 0.97 | 1    | 1.08 | 1.14 | 1.08 | 0.89 |
| CarTech Micro-Melt® 100Cr6      | 0.20 | 0.13 | 0.14 | 0.14 | 0.15 | 0.17 | 0.14 | 0.14 | 0.14 | 0.13 | 0.11 | 0.10 |
| CarTech Micro-Melt® 1045        | 0.19 | 0.12 | 0.13 | 0.13 | 0.15 | 0.16 | 0.13 | 0.13 | 0.13 | 0.12 | 0.10 | 0.10 |
| CarTech Micro-Melt® 15Cr-5Ni    | 0.88 | 0.79 | 0.80 | 0.80 | 0.75 | 0.68 | 0.65 | 0.65 | 0.68 | 0.70 | 0.67 | 0.58 |
| CarTech Micro-Melt® 16MnCr5     | 0.20 | 0.13 | 0.14 | 0.14 | 0.15 | 0.16 | 0.14 | 0.14 | 0.14 | 0.13 | 0.10 | 0.10 |
| CarTech Micro-Melt® 17Cr-4Ni    | 0.51 | 0.44 | 0.49 | 0.50 | 0.52 | 0.50 | 0.47 | 0.51 | 0.55 | 0.59 | 0.56 | 0.51 |
| CarTech Micro-Melt® 20-4        | 2.62 | 2.21 | 2.12 | 1.95 | 1.55 | 1.26 | 1.08 | 1.03 | 0.96 | 0.95 | 0.92 | 0.71 |
| CarTech Micro-Melt® 2205 Duplex | 0.81 | 0.72 | 0.78 | 0.82 | 0.82 | 0.81 | 0.80 | 0.82 | 0.89 | 0.93 | 0.89 | 0.73 |

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**Raw Material and Energy Powder Surcharges 2019 - USD/lb.**  
(applicable at time of shipment)



|                               |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| CarTech Micro-Melt®2505 SDplx | 0.85 | 0.76 | 0.81 | 0.86 | 0.86 | 0.84 | 0.83 | 0.86 | 0.93 | 0.98 | 0.94 | 0.79 |
| CarTech Micro-Melt® 2205M     | 0.82 | 0.73 | 0.78 | 0.83 | 0.83 | 0.82 | 0.81 | 0.83 | 0.9  | 0.94 | 0.90 | 0.74 |
| CarTech Micro-Melt® 23        | 3.24 | 2.81 | 2.78 | 2.70 | 2.38 | 2.16 | 2.03 | 1.97 | 1.93 | 1.90 | 1.81 | 1.33 |
| CarTech Micro-Melt® 2357      | 0.94 | 0.88 | 0.98 | 1.03 | 1.03 | 0.98 | 0.97 | 1.05 | 1.21 | 1.34 | 1.27 | 1.06 |
| CarTech Micro-Melt® 23S       | 3.23 | 2.81 | 2.78 | 2.69 | 2.37 | 2.15 | 2.03 | 1.97 | 1.92 | 1.89 | 1.80 | 1.33 |
| CarTech Micro-Melt® 25-10-10  | 2.66 | 2.40 | 2.38 | 2.44 | 2.32 | 2.23 | 2.23 | 2.08 | 2.06 | 2.01 | 1.96 | 1.45 |
| CarTech Micro-Melt® 253       | 1.40 | 1.22 | 1.27 | 1.36 | 1.35 | 0.60 | 0.58 | 0.65 | 0.76 | 0.85 | 0.80 | 0.71 |
| CarTech Micro-Melt® 254SMO    | 1.42 | 1.35 | 1.49 | 1.58 | 1.56 | 1.49 | 1.49 | 1.58 | 1.79 | 1.96 | 1.89 | 1.54 |
| CarTech Micro-Melt® 25-7-4    | 1.00 | 0.90 | 0.97 | 1.03 | 1.03 | 1.00 | 0.99 | 1.03 | 1.12 | 1.19 | 1.14 | 0.93 |
| CarTech Micro-Melt® 2739      | 5.71 | 4.58 | 4.05 | 3.64 | 3.29 | 2.96 | 2.60 | 2.51 | 2.45 | 2.68 | 2.56 | 1.92 |
| CarTech Micro-Melt® 2888      | 3.63 | 2.45 | 1.64 | 1.26 | 1.56 | 1.63 | 1.32 | 1.25 | 1.31 | 1.78 | 1.70 | 1.33 |
| CarTech Micro-Melt® 2906      | 0.83 | 0.74 | 0.81 | 0.85 | 0.86 | 0.83 | 0.82 | 0.86 | 0.96 | 1.03 | 0.98 | 0.82 |
| CarTech Micro-Melt® 30        | 4.51 | 3.52 | 3.01 | 2.69 | 2.54 | 2.35 | 2.06 | 1.96 | 1.95 | 2.20 | 2.12 | 1.59 |
| CarTech Micro-Melt® 304       | 0.56 | 0.53 | 0.59 | 0.61 | 0.62 | 0.59 | 0.57 | 0.64 | 0.75 | 0.84 | 0.79 | 0.70 |
| CarTech Micro-Melt® 304B4     | 1.24 | 1.19 | 1.24 | 1.25 | 1.17 | 1.05 | 1.03 | 1.09 | 1.24 | 1.37 | 1.30 | 1.10 |
| CarTech Micro-Melt® 304B6     | 1.24 | 1.19 | 1.24 | 1.25 | 1.17 | 1.05 | 1.02 | 1.09 | 1.24 | 1.37 | 1.30 | 1.10 |
| CarTech Micro-Melt® 304B7     | 1.26 | 1.22 | 1.27 | 1.28 | 1.19 | 1.06 | 1.04 | 1.1  | 1.25 | 1.38 | 1.31 | 1.11 |
| CarTech Micro-Melt® 304L      | 1.10 | 1.04 | 1.06 | 1.06 | 0.99 | 0.89 | 0.87 | 0.89 | 0.99 | 1.07 | 1.02 | 0.86 |
| CarTech Micro-Melt® 308L Mod  | 0.63 | 0.59 | 0.67 | 0.70 | 0.70 | 0.66 | 0.64 | 0.73 | 0.86 | 0.97 | 0.91 | 0.80 |
| CarTech Micro-Melt® 309L      | 1.42 | 1.35 | 1.39 | 1.40 | 1.30 | 1.17 | 1.15 | 1.19 | 1.32 | 1.43 | 1.38 | 1.15 |
| CarTech Micro-Melt® 30LS      | 5.34 | 4.05 | 3.31 | 2.89 | 2.80 | 2.62 | 2.24 | 2.13 | 2.13 | 2.50 | 2.42 | 1.82 |
| CarTech Micro-Melt® 30Nb      | 5.40 | 4.09 | 3.33 | 2.88 | 2.79 | 2.61 | 2.21 | 2.1  | 2.1  | 2.49 | 2.40 | 1.81 |
| CarTech Micro-Melt® 312       | 0.66 | 0.62 | 0.69 | 0.71 | 0.72 | 0.69 | 0.67 | 0.75 | 0.87 | 0.97 | 0.91 | 0.81 |
| CarTech Micro-Melt® 316L      | 0.78 | 0.72 | 0.80 | 0.84 | 0.84 | 0.81 | 0.79 | 0.86 | 0.98 | 1.07 | 1.02 | 0.86 |
| CarTech Micro-Melt® 316L AWS  | 0.85 | 0.79 | 0.89 | 0.93 | 0.93 | 0.89 | 0.87 | 0.95 | 1.09 | 1.21 | 1.15 | 0.96 |
| CarTech Micro-Melt® 316L+S    | 0.85 | 0.79 | 0.89 | 0.93 | 0.93 | 0.89 | 0.87 | 0.95 | 1.09 | 1.21 | 1.15 | 0.96 |
| CarTech Micro-Melt® 316LHSi   | 1.45 | 1.37 | 1.43 | 1.46 | 1.37 | 1.26 | 1.24 | 1.28 | 1.42 | 1.53 | 1.47 | 1.20 |
| CarTech Micro-Melt® 316LN     | 1.41 | 1.33 | 1.39 | 1.42 | 1.34 | 1.23 | 1.22 | 1.26 | 1.4  | 1.52 | 1.46 | 1.20 |
| CarTech Micro-Melt® 316Lx1.5  | 1.14 | 1.08 | 1.21 | 1.28 | 1.27 | 1.20 | 1.19 | 1.3  | 1.5  | 1.67 | 1.59 | 1.33 |
| CarTech Micro-Melt® 347H      | 0.64 | 0.60 | 0.69 | 0.71 | 0.72 | 0.67 | 0.65 | 0.75 | 0.89 | 1.01 | 0.94 | 0.82 |
| CarTech Micro-Melt® 410       | 0.29 | 0.22 | 0.24 | 0.23 | 0.24 | 0.23 | 0.21 | 0.2  | 0.19 | 0.17 | 0.14 | 0.14 |
| CarTech Micro-Melt® 410L      | 0.60 | 0.50 | 0.48 | 0.47 | 0.43 | 0.40 | 0.37 | 0.34 | 0.32 | 0.30 | 0.27 | 0.23 |
| CarTech Micro-Melt® 4112      | 0.41 | 0.32 | 0.34 | 0.35 | 0.36 | 0.37 | 0.36 | 0.35 | 0.35 | 0.34 | 0.31 | 0.27 |
| CarTech Micro-Melt® 4130      | 0.25 | 0.17 | 0.19 | 0.19 | 0.20 | 0.21 | 0.19 | 0.19 | 0.19 | 0.17 | 0.15 | 0.14 |
| CarTech Micro-Melt® 4140      | 0.23 | 0.16 | 0.16 | 0.16 | 0.17 | 0.18 | 0.15 | 0.15 | 0.15 | 0.14 | 0.11 | 0.11 |
| CarTech Micro-Melt® 416R      | 0.31 | 0.23 | 0.25 | 0.25 | 0.27 | 0.28 | 0.26 | 0.26 | 0.27 | 0.26 | 0.23 | 0.22 |
| CarTech Micro-Melt® 420       | 0.63 | 0.54 | 0.51 | 0.49 | 0.45 | 0.42 | 0.39 | 0.35 | 0.34 | 0.31 | 0.29 | 0.24 |
| CarTech Micro-Melt® 420 LCM   | 0.64 | 0.54 | 0.52 | 0.50 | 0.46 | 0.42 | 0.40 | 0.36 | 0.34 | 0.31 | 0.29 | 0.25 |
| CarTech Micro-Melt® 420-CW    | 4.84 | 4.16 | 4.00 | 3.64 | 2.74 | 2.07 | 1.72 | 1.63 | 1.48 | 1.43 | 1.39 | 1.03 |
| CarTech Micro-Melt® 420LC     | 0.63 | 0.54 | 0.51 | 0.49 | 0.45 | 0.42 | 0.39 | 0.35 | 0.34 | 0.31 | 0.29 | 0.24 |
| CarTech Micro-Melt® 422       | 0.93 | 0.81 | 0.80 | 0.79 | 0.75 | 0.72 | 0.70 | 0.66 | 0.66 | 0.64 | 0.60 | 0.48 |

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**Raw Material and Energy Powder Surcharges 2019 - USD/lb.**  
(applicable at time of shipment)



|                                |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| CarTech Micro-Melt® 431        | 0.79 | 0.70 | 0.68 | 0.66 | 0.61 | 0.55 | 0.53 | 0.5  | 0.5  | 0.50 | 0.47 | 0.39 |
| CarTech Micro-Melt® 4340       | 0.25 | 0.19 | 0.22 | 0.22 | 0.23 | 0.23 | 0.21 | 0.22 | 0.25 | 0.26 | 0.23 | 0.21 |
| CarTech Micro-Melt® 4370       | 1.07 | 1.01 | 1.02 | 1.02 | 0.95 | 0.85 | 0.82 | 0.84 | 0.92 | 0.97 | 0.93 | 0.78 |
| CarTech Micro-Melt® 440        | 3.48 | 2.97 | 2.87 | 2.62 | 2.00 | 1.54 | 1.29 | 1.23 | 1.12 | 1.08 | 1.05 | 0.80 |
| CarTech Micro-Melt® 440C       | 0.81 | 0.70 | 0.66 | 0.65 | 0.59 | 0.55 | 0.52 | 0.47 | 0.45 | 0.42 | 0.40 | 0.32 |
| CarTech Micro-Melt® 440-XH     | 1.11 | 0.96 | 0.92 | 0.89 | 0.78 | 0.69 | 0.65 | 0.59 | 0.57 | 0.54 | 0.52 | 0.41 |
| CarTech Micro-Melt® 4848       | 1.67 | 1.64 | 1.72 | 1.74 | 1.62 | 1.44 | 1.42 | 1.52 | 1.76 | 1.96 | 1.88 | 1.58 |
| CarTech Micro-Melt® 53         | 5.20 | 4.50 | 4.37 | 4.06 | 3.24 | 2.64 | 2.32 | 2.23 | 2.09 | 2.04 | 1.97 | 1.44 |
| CarTech Micro-Melt® 5499       | 0.76 | 0.63 | 0.64 | 0.63 | 0.58 | 0.55 | 0.51 | 0.49 | 0.48 | 0.46 | 0.44 | 0.34 |
| CarTech Micro-Melt® 60         | 6.82 | 5.43 | 4.74 | 4.24 | 3.76 | 3.32 | 2.85 | 2.7  | 2.64 | 2.94 | 2.86 | 2.12 |
| CarTech Micro-Melt®6126Ni-free | 1.13 | 1.00 | 0.98 | 0.98 | 0.92 | 0.86 | 0.84 | 0.76 | 0.74 | 0.70 | 0.68 | 0.53 |
| CarTech Micro-Melt® 7339       | 0.26 | 0.18 | 0.20 | 0.20 | 0.21 | 0.22 | 0.20 | 0.2  | 0.2  | 0.19 | 0.16 | 0.14 |
| CarTech Micro-Melt® 736A       | 1.17 | 1.08 | 1.06 | 1.05 | 0.96 | 0.86 | 0.84 | 0.81 | 0.84 | 0.86 | 0.83 | 0.68 |
| CarTech Micro-Melt® 80         | 9.63 | 7.28 | 5.85 | 4.98 | 4.74 | 4.34 | 3.61 | 3.42 | 3.4  | 4.12 | 3.98 | 3.00 |
| CarTech Micro-Melt® 800        | 8.76 | 7.58 | 7.26 | 6.57 | 4.88 | 3.63 | 3.00 | 2.81 | 2.51 | 2.41 | 2.38 | 1.74 |
| CarTech Micro-Melt® 9038       | 2.24 | 1.92 | 1.89 | 1.79 | 1.50 | 1.29 | 1.17 | 1.12 | 1.07 | 1.05 | 1.01 | 0.75 |
| CarTech Micro-Melt® 9040       | 3.22 | 2.78 | 2.74 | 2.64 | 2.23 | 1.95 | 1.80 | 1.72 | 1.67 | 1.63 | 1.58 | 1.16 |
| CarTech Micro-Melt® 9055       | 4.52 | 3.53 | 3.02 | 2.71 | 2.55 | 2.36 | 2.06 | 1.96 | 1.95 | 2.20 | 2.12 | 1.58 |
| CarTech Micro-Melt® 9078       | 4.69 | 4.01 | 3.86 | 3.53 | 2.71 | 2.10 | 1.78 | 1.68 | 1.54 | 1.51 | 1.48 | 1.08 |
| CarTech Micro-Melt® 9098       | 2.45 | 2.09 | 2.03 | 1.87 | 1.47 | 1.17 | 1.00 | 0.96 | 0.89 | 0.86 | 0.83 | 0.64 |
| CarTech Micro-Melt® 9655       | 1.26 | 1.17 | 1.28 | 1.36 | 1.35 | 1.30 | 1.29 | 1.36 | 1.52 | 1.64 | 1.58 | 1.29 |
| CarTech Micro-Melt® 9659       | 2.00 | 1.87 | 1.90 | 1.94 | 1.81 | 1.67 | 1.65 | 1.63 | 1.75 | 1.83 | 1.78 | 1.42 |
| CarTech Micro-Melt® 9660       | 2.00 | 1.87 | 1.90 | 1.94 | 1.81 | 1.67 | 1.65 | 1.63 | 1.75 | 1.83 | 1.78 | 1.42 |
| CarTech Micro-Melt® A11        | 5.16 | 4.43 | 4.27 | 3.88 | 2.91 | 2.19 | 1.82 | 1.72 | 1.56 | 1.50 | 1.47 | 1.08 |
| CarTech Micro-Melt® A11HC      | 6.10 | 5.27 | 5.09 | 4.69 | 3.59 | 2.79 | 2.38 | 2.25 | 2.07 | 2.01 | 1.98 | 1.43 |
| CarTech Micro-Melt® A11LVC     | 4.95 | 4.26 | 4.10 | 3.73 | 2.80 | 2.12 | 1.76 | 1.67 | 1.51 | 1.45 | 1.42 | 1.04 |
| CarTech Micro-Melt® A11-VP     | 5.45 | 4.69 | 4.51 | 4.10 | 3.08 | 2.32 | 1.93 | 1.82 | 1.65 | 1.59 | 1.56 | 1.14 |
| CarTech Micro-Melt® Aermet®100 | 3.70 | 2.35 | 1.32 | 0.82 | 1.19 | 1.22 | 0.81 | 0.81 | 1.03 | 1.78 | 1.75 | 1.46 |
| CarTech Micro-Melt® AISI8740   | 0.25 | 0.18 | 0.20 | 0.20 | 0.21 | 0.22 | 0.19 | 0.2  | 0.2  | 0.19 | 0.17 | 0.15 |
| CarTech Micro-Melt® AM400Plus  | 1.02 | 0.96 | 1.00 | 1.03 | 0.97 | 0.90 | 0.88 | 0.91 | 1.02 | 1.10 | 1.06 | 0.87 |
| CarTech Micro-Melt® APM 2370   | 0.88 | 0.79 | 0.85 | 0.90 | 0.90 | 0.88 | 0.87 | 0.9  | 0.98 | 1.04 | 0.99 | 0.81 |
| CarTech Micro-Melt® CD#1       | 0.92 | 0.77 | 0.78 | 0.75 | 0.65 | 0.58 | 0.53 | 0.52 | 0.52 | 0.52 | 0.49 | 0.40 |
| CarTech Micro-Melt® D2         | 0.99 | 0.78 | 0.73 | 0.67 | 0.59 | 0.53 | 0.45 | 0.43 | 0.42 | 0.43 | 0.40 | 0.33 |
| CarTech Micro-Melt® D7         | 2.43 | 2.07 | 2.01 | 1.85 | 1.44 | 1.14 | 0.97 | 0.92 | 0.85 | 0.82 | 0.79 | 0.61 |
| CarTech Micro-Melt® Duplex 22  | 0.81 | 0.72 | 0.78 | 0.82 | 0.83 | 0.81 | 0.80 | 0.82 | 0.9  | 0.95 | 0.91 | 0.75 |
| CarTech Micro-Melt® F22        | 0.42 | 0.33 | 0.33 | 0.34 | 0.33 | 0.33 | 0.30 | 0.29 | 0.29 | 0.29 | 0.26 | 0.22 |
| CarTech Micro-Melt® FeSi       | 0.21 | 0.15 | 0.15 | 0.15 | 0.17 | 0.17 | 0.15 | 0.15 | 0.14 | 0.13 | 0.11 | 0.10 |
| CarTech Micro-Melt® FeSi 600   | 0.21 | 0.15 | 0.16 | 0.16 | 0.17 | 0.17 | 0.15 | 0.15 | 0.14 | 0.13 | 0.11 | 0.10 |
| CarTech Micro-Melt® Grade 92   | 0.60 | 0.49 | 0.50 | 0.51 | 0.52 | 0.53 | 0.51 | 0.51 | 0.51 | 0.50 | 0.45 | 0.37 |
| CarTech Micro-Melt® H13        | 1.52 | 1.29 | 1.25 | 1.18 | 0.95 | 0.79 | 0.70 | 0.65 | 0.61 | 0.59 | 0.56 | 0.43 |
| CarTech Micro-Melt® H163       | 3.73 | 3.24 | 3.19 | 3.06 | 2.62 | 2.32 | 2.15 | 2.08 | 2.01 | 1.98 | 1.89 | 1.39 |

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(applicable at time of shipment)



|                               |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| CarTech Micro-Melt® HS-30     | 4.45 | 3.46 | 2.94 | 2.62 | 2.48 | 2.30 | 2.01 | 1.92 | 1.9  | 2.16 | 2.08 | 1.56 |
| CarTech Micro-Melt® M300      | 3.76 | 2.81 | 2.19 | 1.86 | 2.15 | 2.14 | 1.85 | 1.7  | 2.22 | 2.86 | 2.80 | 2.37 |
| CarTech Micro-Melt® M4        | 3.62 | 3.14 | 3.09 | 2.96 | 2.54 | 2.24 | 2.08 | 2.01 | 1.95 | 1.92 | 1.83 | 1.35 |
| CarTech Micro-Melt® M4 HCS    | 3.84 | 3.34 | 3.29 | 3.16 | 2.73 | 2.43 | 2.27 | 2.19 | 2.12 | 2.09 | 2.00 | 1.46 |
| CarTech Micro-Melt® M42       | 3.18 | 2.37 | 1.94 | 1.75 | 1.77 | 1.73 | 1.52 | 1.42 | 1.45 | 1.69 | 1.67 | 1.24 |
| CarTech Micro-Melt® M48       | 5.16 | 4.07 | 3.52 | 3.19 | 3.05 | 2.87 | 2.56 | 2.47 | 2.46 | 2.73 | 2.61 | 1.95 |
| CarTech Micro-Melt® M48 LS    | 5.20 | 4.10 | 3.55 | 3.22 | 3.08 | 2.89 | 2.58 | 2.49 | 2.47 | 2.75 | 2.63 | 1.96 |
| CarTech Micro-Melt® Maxamet®  | 6.82 | 5.45 | 4.76 | 4.24 | 3.82 | 3.41 | 2.96 | 2.86 | 2.79 | 3.09 | 2.93 | 2.21 |
| CarTech Micro-Melt® MV 11K    | 2.34 | 1.99 | 1.94 | 1.79 | 1.42 | 1.14 | 0.99 | 0.95 | 0.88 | 0.86 | 0.83 | 0.65 |
| CarTech Micro-Melt® NOREM 02  | 0.37 | 0.33 | 0.37 | 0.38 | 0.38 | 0.37 | 0.36 | 0.39 | 0.44 | 0.48 | 0.45 | 0.38 |
| CarTech Micro-Melt® O6        | 0.20 | 0.13 | 0.14 | 0.14 | 0.15 | 0.16 | 0.14 | 0.14 | 0.13 | 0.12 | 0.10 | 0.10 |
| CarTech Micro-Melt® P-28      | 1.99 | 1.87 | 1.89 | 1.93 | 1.80 | 1.66 | 1.65 | 1.63 | 1.74 | 1.83 | 1.78 | 1.41 |
| CarTech Micro-Melt® PD#1      | 1.76 | 1.49 | 1.46 | 1.38 | 1.14 | 0.97 | 0.87 | 0.83 | 0.79 | 0.77 | 0.74 | 0.56 |
| CarTech Micro-Melt® PD#5      | 2.92 | 2.52 | 2.44 | 2.27 | 1.84 | 1.52 | 1.34 | 1.27 | 1.19 | 1.15 | 1.11 | 0.83 |
| CarTech Micro-Melt® SA508     | 0.27 | 0.20 | 0.22 | 0.23 | 0.24 | 0.24 | 0.22 | 0.23 | 0.24 | 0.24 | 0.21 | 0.18 |
| Micro-Melt® Sanicro 15-5PH    | 0.50 | 0.43 | 0.48 | 0.49 | 0.50 | 0.48 | 0.46 | 0.5  | 0.55 | 0.59 | 0.55 | 0.50 |
| CarTech Micro-Melt® 15-5PH    | 0.50 | 0.43 | 0.48 | 0.49 | 0.50 | 0.48 | 0.46 | 0.5  | 0.55 | 0.59 | 0.55 | 0.50 |
| CarTech Micro-Melt® T15       | 5.46 | 4.51 | 4.13 | 3.78 | 3.37 | 3.02 | 2.71 | 2.64 | 2.57 | 2.70 | 2.55 | 1.91 |
| CarTech Micro-Melt® T15 Plus  | 5.81 | 4.67 | 4.12 | 3.71 | 3.35 | 3.01 | 2.65 | 2.55 | 2.5  | 2.73 | 2.60 | 1.95 |
| CarTech Micro-Melt® TD#1      | 1.29 | 1.08 | 1.06 | 1.04 | 0.96 | 0.90 | 0.85 | 0.82 | 0.81 | 0.81 | 0.76 | 0.58 |
| CarTech Micro-Melt® TF1       | 1.53 | 1.15 | 0.98 | 0.88 | 0.83 | 0.77 | 0.65 | 0.61 | 0.6  | 0.69 | 0.67 | 0.52 |
| CarTech Micro-Melt® TF6       | 7.63 | 6.40 | 5.97 | 5.59 | 5.04 | 4.59 | 4.22 | 4.11 | 4.03 | 4.18 | 3.96 | 2.93 |
| CarTech Micro-Melt® TMM       | 0.97 | 0.82 | 0.83 | 0.81 | 0.72 | 0.65 | 0.59 | 0.58 | 0.59 | 0.59 | 0.56 | 0.45 |
| CarTech Micro-Melt® VA176     | 6.18 | 5.34 | 5.13 | 4.68 | 3.53 | 2.68 | 2.26 | 2.11 | 1.91 | 1.84 | 1.81 | 1.33 |
| CarTech Micro-Melt® W4841Nb   | 0.97 | 0.98 | 1.12 | 1.17 | 1.17 | 1.07 | 1.06 | 1.23 | 1.49 | 1.72 | 1.63 | 1.41 |
| CarTech Micro-Melt® X245      | 5.35 | 4.60 | 4.43 | 4.03 | 3.02 | 2.27 | 1.89 | 1.78 | 1.61 | 1.55 | 1.52 | 1.12 |
| Micro-Melt® X4CrNiMo 16-5-1   | 0.41 | 0.36 | 0.40 | 0.41 | 0.42 | 0.41 | 0.39 | 0.43 | 0.49 | 0.53 | 0.49 | 0.44 |
| CarTech UltraFine® 1.2709     | 3.31 | 2.36 | 1.75 | 1.47 | 1.71 | 1.69 | 1.41 | 1.49 | 1.79 | 2.43 | 2.37 | 1.94 |
| CarTech UltraFine® 1.4435     | 1.94 | 1.83 | 1.88 | 1.92 | 1.79 | 1.65 | 1.63 | 1.64 | 1.79 | 1.90 | 1.85 | 1.49 |
| CarTech UltraFine® 17Cr-4Ni   | 0.94 | 0.85 | 0.85 | 0.85 | 0.79 | 0.72 | 0.69 | 0.68 | 0.7  | 0.72 | 0.69 | 0.60 |
| CarTech UltraFine® 304L       | 0.55 | 0.51 | 0.57 | 0.59 | 0.60 | 0.57 | 0.55 | 0.62 | 0.72 | 0.81 | 0.76 | 0.67 |
| CarTech UltraFine® 316L       | 0.85 | 0.80 | 0.89 | 0.93 | 0.93 | 0.89 | 0.87 | 0.95 | 1.09 | 1.21 | 1.15 | 0.96 |
| CarTech UltraFine® 410L       | 0.27 | 0.19 | 0.20 | 0.20 | 0.22 | 0.23 | 0.21 | 0.21 | 0.21 | 0.20 | 0.17 | 0.17 |
| CarTech UltraFine® 430L       | 0.75 | 0.64 | 0.60 | 0.59 | 0.53 | 0.49 | 0.46 | 0.41 | 0.39 | 0.36 | 0.34 | 0.28 |
| CarTech UltraFine® 4340       | 0.25 | 0.19 | 0.22 | 0.22 | 0.23 | 0.23 | 0.21 | 0.22 | 0.25 | 0.26 | 0.23 | 0.21 |
| CarTech UltraFine® 4340 MA 3X | 0.25 | 0.19 | 0.22 | 0.22 | 0.23 | 0.23 | 0.21 | 0.22 | 0.25 | 0.26 | 0.23 | 0.21 |
| CarTech UltraFine® 440C+1.5Nb | 0.93 | 0.83 | 0.83 | 0.80 | 0.73 | 0.68 | 0.65 | 0.61 | 0.59 | 0.55 | 0.51 | 0.45 |
| CarTech UltraFine® D2         | 0.90 | 0.72 | 0.69 | 0.64 | 0.55 | 0.49 | 0.42 | 0.41 | 0.39 | 0.39 | 0.37 | 0.31 |
| CarTech UltraFine® Fe14MnC    | 0.22 | 0.16 | 0.17 | 0.17 | 0.18 | 0.19 | 0.17 | 0.17 | 0.17 | 0.16 | 0.14 | 0.13 |
| UltraFine® Fe17Cr11Mn3Mo      | 1.12 | 0.99 | 0.97 | 0.98 | 0.91 | 0.87 | 0.85 | 0.78 | 0.76 | 0.73 | 0.71 | 0.55 |
| CarTech UltraFine® FeCrMnMo   | 1.12 | 0.99 | 0.97 | 0.98 | 0.91 | 0.87 | 0.85 | 0.78 | 0.76 | 0.73 | 0.71 | 0.55 |

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**Raw Material and Energy Powder Surcharges 2019 - USD/lb.**  
(applicable at time of shipment)



|                               |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| CarTech UltraFine® Fe-30Cr    | 1.17 | 1.04 | 0.97 | 0.93 | 0.83 | 0.74 | 0.71 | 0.63 | 0.59 | 0.54 | 0.52 | 0.43 |
| CarTech UltraFine® Fe30Ni     | 1.13 | 1.19 | 1.41 | 1.48 | 1.44 | 1.31 | 1.28 | 1.55 | 1.94 | 2.29 | 2.17 | 1.85 |
| CarTech UltraFine® Fe8Ni      | 0.44 | 0.40 | 0.47 | 0.49 | 0.49 | 0.46 | 0.44 | 0.51 | 0.61 | 0.70 | 0.65 | 0.56 |
| CarTech UltraFine® FeCrAlY    | 0.35 | 0.27 | 0.27 | 0.28 | 0.30 | 0.30 | 0.29 | 0.29 | 0.28 | 0.28 | 0.25 | 0.24 |
| CarTech UltraFine® FeSiAl     | 0.25 | 0.19 | 0.19 | 0.19 | 0.20 | 0.20 | 0.17 | 0.17 | 0.16 | 0.15 | 0.13 | 0.13 |
| CarTech UltraFine® H13        | 0.92 | 0.75 | 0.75 | 0.72 | 0.62 | 0.55 | 0.49 | 0.47 | 0.45 | 0.44 | 0.41 | 0.33 |
| CarTech UltraFine® M2         | 2.90 | 2.51 | 2.48 | 2.41 | 2.13 | 1.94 | 1.84 | 1.77 | 1.73 | 1.70 | 1.61 | 1.15 |
| CarTech UltraFine® Mod FeSiAl | 0.25 | 0.19 | 0.20 | 0.19 | 0.20 | 0.20 | 0.18 | 0.18 | 0.17 | 0.16 | 0.13 | 0.13 |
| CarTech UltraFine® S7         | 0.45 | 0.36 | 0.37 | 0.38 | 0.37 | 0.37 | 0.35 | 0.33 | 0.33 | 0.31 | 0.29 | 0.24 |
| CarTech UltraFine® SCM415     | 0.20 | 0.13 | 0.14 | 0.14 | 0.15 | 0.16 | 0.14 | 0.14 | 0.14 | 0.13 | 0.10 | 0.10 |
| UltraFine® X2NiCoMo 18-9-5    | 3.24 | 2.32 | 1.72 | 1.45 | 1.68 | 1.66 | 1.39 | 1.46 | 1.75 | 2.38 | 2.32 | 1.90 |
| CarTech UltraFine® X65Cr13    | 0.65 | 0.55 | 0.52 | 0.51 | 0.46 | 0.43 | 0.40 | 0.36 | 0.34 | 0.31 | 0.29 | 0.25 |
| CarTech Micro-Melt® 65Fe35Co  | 7.86 | 4.37 | 1.46 | 0.09 | 1.11 | 1.34 | 0.29 | 0.09 | 0.28 | 1.94 | 1.98 | 1.65 |
| CarTech Micro-Melt® 255N      | 1.58 | 1.46 | 1.45 | 1.47 | 1.36 | 1.25 | 1.23 | 1.19 | 1.24 | 1.26 | 1.23 | 0.99 |
| CarTech Micro-Melt® 431 FM    | 0.78 | 0.69 | 0.67 | 0.66 | 0.61 | 0.55 | 0.53 | 0.5  | 0.51 | 0.51 | 0.48 | 0.40 |
| CarTech Micro-Melt® 21-6-9    | 1.12 | 1.04 | 1.04 | 1.03 | 0.95 | 0.85 | 0.83 | 0.82 | 0.88 | 0.91 | 0.87 | 0.73 |
| CarTech Micro-Melt® 9310      | 0.35 | 0.29 | 0.32 | 0.33 | 0.33 | 0.32 | 0.30 | 0.32 | 0.36 | 0.39 | 0.35 | 0.31 |
| CarTech UltraFine® Fe-3Si     | 0.19 | 0.12 | 0.14 | 0.14 | 0.15 | 0.16 | 0.13 | 0.13 | 0.13 | 0.12 | 0.09 | 0.09 |
| CarTech UltraFine® SKH57      | 6.48 | 4.96 | 4.08 | 3.56 | 3.46 | 3.25 | 2.81 | 2.68 | 2.67 | 3.11 | 2.98 | 2.25 |
| CarTech UltraFine® Fe-6Si     | 0.20 | 0.13 | 0.14 | 0.14 | 0.15 | 0.16 | 0.13 | 0.13 | 0.13 | 0.12 | 0.09 | 0.09 |
| CarTech UltraFine® F15        | 4.82 | 3.21 | 2.01 | 1.41 | 1.87 | 1.84 | 1.32 | 1.48 | 1.95 | 3.10 | 3.01 | 2.55 |
| CarTech UltraFine® 347        | 1.12 | 1.06 | 1.10 | 1.11 | 1.03 | 0.93 | 0.90 | 0.95 | 1.07 | 1.17 | 1.11 | 0.94 |
| CarTech UltraFine® Fe-18Cr    | 0.78 | 0.67 | 0.63 | 0.61 | 0.56 | 0.51 | 0.48 | 0.43 | 0.41 | 0.37 | 0.35 | 0.29 |
| CarTech UltraFine® 4140       | 0.25 | 0.18 | 0.19 | 0.19 | 0.19 | 0.20 | 0.18 | 0.17 | 0.17 | 0.16 | 0.13 | 0.13 |
| CarTech UltraFine® VeKo25Cr   | 4.19 | 3.65 | 3.59 | 3.39 | 2.83 | 2.42 | 2.21 | 2.14 | 2.05 | 2.02 | 1.92 | 1.43 |
| CarTech UltraFine® 4140 MA    | 0.37 | 0.29 | 0.29 | 0.29 | 0.29 | 0.29 | 0.27 | 0.25 | 0.25 | 0.23 | 0.21 | 0.18 |
| CarTech UltraFine® HK30       | 1.81 | 1.78 | 1.90 | 1.91 | 1.78 | 1.60 | 1.58 | 1.69 | 1.92 | 2.12 | 2.02 | 1.72 |
| CarTech UltraFine® Fe-42Ni    | 1.51 | 1.62 | 1.92 | 2.02 | 1.97 | 1.77 | 1.75 | 2.13 | 2.67 | 3.17 | 3.01 | 2.57 |
| CarTech UltraFine® 218        | 1.69 | 1.60 | 1.64 | 1.65 | 1.53 | 1.38 | 1.35 | 1.37 | 1.5  | 1.60 | 1.54 | 1.26 |
| CarTech Micro-Melt® 7570      | 2.96 | 2.64 | 2.64 | 2.71 | 2.61 | 2.56 | 2.56 | 2.43 | 2.42 | 2.38 | 2.30 | 1.68 |
| CarTech Micro-Melt Invar 36®  | 1.32 | 1.40 | 1.66 | 1.74 | 1.71 | 1.53 | 1.51 | 1.83 | 2.3  | 2.71 | 2.58 | 2.20 |
| CarTech Micro-Melt® Alloy 1   | 1.03 | 0.96 | 1.01 | 1.03 | 0.97 | 0.90 | 0.88 | 0.91 | 1.02 | 1.10 | 1.05 | 0.87 |
| CarTech Micro-Melt® EN25      | 0.36 | 0.29 | 0.32 | 0.33 | 0.33 | 0.33 | 0.31 | 0.32 | 0.36 | 0.37 | 0.34 | 0.30 |
| CarTech Micro-Melt® PWC7      | 7.31 | 6.39 | 6.22 | 5.73 | 4.43 | 3.47 | 3.01 | 2.86 | 2.66 | 2.60 | 2.52 | 1.93 |
| CarTech Micro-Melt® 4304-2    | 1.14 | 1.08 | 1.11 | 1.11 | 1.03 | 0.93 | 0.90 | 0.94 | 1.05 | 1.14 | 1.09 | 0.92 |
| CarTech Micro-Melt® BSEC510   | 0.28 | 0.21 | 0.23 | 0.23 | 0.24 | 0.25 | 0.23 | 0.23 | 0.24 | 0.24 | 0.22 | 0.19 |
| CarTech Micro-Melt® P21 Mod   | 0.44 | 0.38 | 0.41 | 0.41 | 0.39 | 0.37 | 0.34 | 0.37 | 0.42 | 0.45 | 0.42 | 0.36 |
| CarTech Micro-Melt® 177-1     | 0.97 | 0.90 | 0.91 | 0.91 | 0.84 | 0.76 | 0.74 | 0.75 | 0.82 | 0.88 | 0.83 | 0.70 |
| CarTech Micro-Melt® FeCoMo    | 5.17 | 3.54 | 2.43 | 1.97 | 2.36 | 2.43 | 1.99 | 1.91 | 2.14 | 2.96 | 2.94 | 2.29 |
| CarTech Micro-Melt® 13Cr-8Ni  | 1.09 | 1.01 | 1.05 | 1.07 | 1.02 | 0.95 | 0.93 | 0.95 | 1.04 | 1.11 | 1.06 | 0.87 |
| CarTech Micro-Melt® FeCrWTi   | 1.09 | 0.95 | 0.93 | 0.91 | 0.88 | 0.86 | 0.83 | 0.8  | 0.79 | 0.76 | 0.70 | 0.55 |

Carpenter reserves the right to change base values and/or add producer premiums to accurately reflect the changes in raw material markets and prices.

**Raw Material and Energy Powder Surcharges 2019 - USD/lb.**  
(applicable at time of shipment)



|                                |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| CarTech Micro-Melt® 316L Mod-1 | 1.23 | 1.18 | 1.24 | 1.25 | 1.17 | 1.05 | 1.03 | 1.1  | 1.26 | 1.39 | 1.33 | 1.12 |
| CarTech Micro-Melt® 316L Mod-2 | 1.22 | 1.18 | 1.24 | 1.25 | 1.17 | 1.05 | 1.03 | 1.1  | 1.26 | 1.39 | 1.32 | 1.12 |
| CarTech Micro-Melt® 316L Mod-3 | 1.66 | 1.63 | 1.71 | 1.73 | 1.61 | 1.44 | 1.41 | 1.52 | 1.75 | 1.96 | 1.87 | 1.58 |
| CarTech Micro-Melt® C300       | 3.24 | 2.32 | 1.72 | 1.46 | 1.69 | 1.67 | 1.39 | 1.47 | 1.76 | 2.39 | 2.33 | 1.90 |
| CarTech Micro-Melt® 420-CW Mod | 5.65 | 4.89 | 4.68 | 4.27 | 3.23 | 2.46 | 2.08 | 1.94 | 1.75 | 1.68 | 1.65 | 1.21 |
| Micro-Melt Ferrium® PH48S      | 2.62 | 1.83 | 1.26 | 0.99 | 1.15 | 1.13 | 0.90 | 0.89 | 1.03 | 1.47 | 1.43 | 1.18 |
| CarTech Micro-Melt® Fe-10Ni    | 0.59 | 0.55 | 0.63 | 0.65 | 0.63 | 0.58 | 0.55 | 0.63 | 0.76 | 0.87 | 0.81 | 0.70 |
| Micro-Melt Ferrium® C64        | 4.34 | 2.68 | 1.38 | 0.77 | 1.22 | 1.28 | 0.78 | 0.73 | 0.92 | 1.77 | 1.75 | 1.45 |
| CarTech Micro-Melt® SA508 Gr4N | 0.45 | 0.38 | 0.41 | 0.41 | 0.41 | 0.40 | 0.37 | 0.39 | 0.44 | 0.47 | 0.44 | 0.37 |
| CarTech UltraFine® 17Cr-4Ni Ar | 1.04 | 0.95 | 0.96 | 0.96 | 0.89 | 0.82 | 0.79 | 0.78 | 0.8  | 0.82 | 0.78 | 0.67 |
| CarTech Micro-Melt® HTMO       | 1.00 | 0.91 | 0.92 | 0.91 | 0.85 | 0.78 | 0.76 | 0.74 | 0.76 | 0.78 | 0.75 | 0.64 |
| CarTech Micro-Melt® 1.2709     | 3.29 | 2.36 | 1.77 | 1.50 | 1.73 | 1.71 | 1.43 | 1.51 | 1.81 | 2.44 | 2.38 | 1.94 |
| CarTech Micro-Melt® NitroMaxx  | 1.37 | 1.26 | 1.23 | 1.23 | 1.14 | 1.04 | 1.02 | 0.97 | 0.99 | 1.00 | 0.97 | 0.78 |
| CarTech Micro-Melt® M152       | 1.02 | 0.90 | 0.89 | 0.88 | 0.81 | 0.74 | 0.71 | 0.68 | 0.69 | 0.69 | 0.67 | 0.53 |
| CarTech Micro-Melt® FeCrAlTi   | 0.87 | 0.76 | 0.71 | 0.69 | 0.62 | 0.57 | 0.54 | 0.48 | 0.46 | 0.42 | 0.40 | 0.34 |
| CarTech Micro-Melt® SHS8000    | 1.61 | 1.47 | 1.53 | 1.52 | 1.41 | 1.34 | 1.32 | 1.26 | 1.24 | 1.20 | 1.12 | 0.95 |
| CarTech UltraFine® 13Cr-8Ni    | 1.10 | 1.02 | 1.06 | 1.08 | 1.02 | 0.95 | 0.93 | 0.95 | 1.04 | 1.11 | 1.07 | 0.87 |
| CarTech UltraFine® 42CrMo4     | 0.25 | 0.18 | 0.19 | 0.19 | 0.19 | 0.20 | 0.18 | 0.17 | 0.17 | 0.16 | 0.13 | 0.13 |
| UltraFine® BioDur 108 low Ni   | 1.15 | 1.04 | 1.00 | 0.97 | 0.90 | 0.80 | 0.78 | 0.7  | 0.67 | 0.60 | 0.59 | 0.48 |
| CarTech UltraFine® 420         | 0.80 | 0.70 | 0.72 | 0.70 | 0.64 | 0.60 | 0.58 | 0.54 | 0.53 | 0.50 | 0.45 | 0.41 |
| CarTech UltraFine BioDur® 108  | 1.15 | 1.04 | 1.00 | 0.97 | 0.90 | 0.80 | 0.78 | 0.7  | 0.67 | 0.60 | 0.59 | 0.48 |
| CarTech UltraFine Custom 465®  | 1.03 | 0.97 | 1.03 | 1.05 | 1.00 | 0.92 | 0.90 | 0.96 | 1.09 | 1.19 | 1.14 | 0.95 |
| CarTech UltraFine® Fe10Mn3Si   | 0.27 | 0.21 | 0.22 | 0.21 | 0.22 | 0.21 | 0.19 | 0.19 | 0.18 | 0.16 | 0.13 | 0.13 |
| CarTech UltraFine® 440A        | 0.75 | 0.64 | 0.60 | 0.59 | 0.53 | 0.49 | 0.46 | 0.41 | 0.39 | 0.36 | 0.34 | 0.28 |
| CarTech UltraFine® 15Cr-5Ni    | 0.93 | 0.85 | 0.86 | 0.86 | 0.81 | 0.73 | 0.71 | 0.71 | 0.74 | 0.77 | 0.73 | 0.64 |
| CarTech UltraFine® X20Cr13     | 0.64 | 0.55 | 0.52 | 0.50 | 0.46 | 0.43 | 0.40 | 0.36 | 0.34 | 0.31 | 0.29 | 0.25 |
| CarTech UltraFine® S5          | 0.28 | 0.20 | 0.22 | 0.22 | 0.23 | 0.24 | 0.22 | 0.21 | 0.21 | 0.20 | 0.18 | 0.15 |
| CarTech UltraFine® FeCoSiNbBCu | 7.51 | 4.49 | 2.12 | 0.92 | 1.74 | 1.91 | 1.00 | 0.83 | 0.99 | 2.42 | 2.35 | 2.06 |
| CarTech UltraFine® 18Ni300     | 3.25 | 2.33 | 1.74 | 1.47 | 1.70 | 1.68 | 1.40 | 1.48 | 1.78 | 2.41 | 2.35 | 1.92 |
| CarTech UltraFine® Fe6.5Si5Cr  | 0.36 | 0.28 | 0.28 | 0.27 | 0.26 | 0.25 | 0.23 | 0.21 | 0.2  | 0.19 | 0.16 | 0.15 |
| CarTech UltraFine Custom 455®  | 0.93 | 0.87 | 0.92 | 0.93 | 0.88 | 0.80 | 0.78 | 0.82 | 0.91 | 0.99 | 0.94 | 0.81 |
| CarTech UltraFine Custom 475®  | 3.19 | 2.25 | 1.60 | 1.32 | 1.51 | 1.50 | 1.23 | 1.19 | 1.34 | 1.81 | 1.78 | 1.43 |
| CarTech UltraFine® FeSiNbCuB   | 0.92 | 0.85 | 0.99 | 0.97 | 0.93 | 0.90 | 0.88 | 0.89 | 0.88 | 0.87 | 0.74 | 0.74 |
| UltraFine Hi Permeability 49®  | 1.69 | 1.83 | 2.17 | 2.28 | 2.23 | 2.00 | 1.98 | 2.4  | 3.02 | 3.59 | 3.41 | 2.91 |
| CarTech UltraFine® X25CrMo14   | 0.78 | 0.67 | 0.64 | 0.64 | 0.59 | 0.55 | 0.53 | 0.48 | 0.46 | 0.43 | 0.41 | 0.33 |
| CarTech UltraFine® A2          | 0.66 | 0.55 | 0.54 | 0.53 | 0.49 | 0.45 | 0.42 | 0.39 | 0.38 | 0.36 | 0.34 | 0.27 |
| CarTech UltraFine® 303         | 1.14 | 1.07 | 1.09 | 1.10 | 1.02 | 0.93 | 0.90 | 0.92 | 1.02 | 1.09 | 1.04 | 0.87 |
| CarTech UltraFine® FeCo35      | 7.86 | 4.37 | 1.46 | 0.09 | 1.11 | 1.34 | 0.29 | 0.09 | 0.28 | 1.94 | 1.98 | 1.65 |
| CarTech UltraFine® 440C        | 0.75 | 0.64 | 0.60 | 0.59 | 0.53 | 0.49 | 0.46 | 0.41 | 0.39 | 0.36 | 0.34 | 0.28 |
| CarTech UltraFine® 420Mod      | 5.54 | 4.79 | 4.58 | 4.16 | 3.12 | 2.35 | 1.97 | 1.83 | 1.64 | 1.57 | 1.54 | 1.14 |
| CarTech Micro-Melt® 9043       | 3.28 | 2.85 | 2.82 | 2.73 | 2.40 | 2.17 | 2.05 | 1.99 | 1.94 | 1.91 | 1.82 | 1.34 |

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**Raw Material and Energy Powder Surcharges 2019 - USD/lb.**  
(applicable at time of shipment)



|                                |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| CarTech Micro-Melt® AF9628     | 0.34 | 0.26 | 0.29 | 0.30 | 0.31 | 0.31 | 0.29 | 0.29 | 0.31 | 0.31 | 0.28 | 0.24 |
| MS-1(N)                        | 3.27 | 2.34 | 1.75 | 1.49 | 1.72 | 1.70 | 1.42 | 1.5  | 1.8  | 2.43 | 2.37 | 1.93 |
| CarTech Micro-Melt NiMark® 350 | 3.90 | 2.69 | 1.85 | 1.46 | 1.78 | 1.78 | 1.41 | 1.47 | 1.79 | 2.57 | 2.51 | 2.05 |
| CarTech UltraFine® 316L Mod    | 1.05 | 0.99 | 1.11 | 1.17 | 1.16 | 1.10 | 1.09 | 1.19 | 1.37 | 1.53 | 1.46 | 1.21 |
| CarTech Micro-Melt® 416        | 0.66 | 0.56 | 0.54 | 0.53 | 0.49 | 0.46 | 0.43 | 0.4  | 0.39 | 0.37 | 0.34 | 0.29 |
| CarTech Micro-Melt® 30CD12     | 0.28 | 0.20 | 0.21 | 0.22 | 0.23 | 0.24 | 0.22 | 0.21 | 0.21 | 0.20 | 0.18 | 0.16 |
| CarTech Micro-Melt® Wear 26    | 1.60 | 1.35 | 1.32 | 1.23 | 1.01 | 0.84 | 0.74 | 0.71 | 0.67 | 0.65 | 0.61 | 0.49 |
| CarTech Micro-Melt® Wear 20    | 2.58 | 2.20 | 2.13 | 1.96 | 1.53 | 1.21 | 1.04 | 0.99 | 0.92 | 0.89 | 0.84 | 0.65 |

**Tungsten/Nickel-based (powder products)**

| Alloy Description             | Jan   | Feb   | Mar   | Apr   | May   | Jun   | Jul   | Aug  | Sep  | Oct   | Nov   | Dec  |
|-------------------------------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|-------|------|
| CarTech Micro-Melt® Amega NM  | 9.76  | 9.01  | 9.30  | 9.46  | 9.36  | 9.14  | 9.15  | 9.42 | 9.94 | 10.39 | 9.74  | 7.48 |
| CarTech Micro-Melt® NT-60     | 11.64 | 10.68 | 10.96 | 11.06 | 11.00 | 10.81 | 10.80 | 11.2 | 11.7 | 12.14 | 11.27 | 8.66 |
| CarTech Micro-Melt® NT-60KS   | 11.17 | 10.26 | 10.54 | 10.63 | 10.58 | 10.38 | 10.38 | 10.7 | 11.2 | 11.70 | 10.86 | 8.35 |
| CarTech Micro-Melt® NT-60SP   | 11.49 | 10.54 | 10.80 | 10.89 | 10.84 | 10.66 | 10.65 | 11   | 11.5 | 11.93 | 11.08 | 8.49 |
| CarTech Micro-Melt® NT-70SP   | 12.92 | 11.73 | 11.92 | 11.98 | 11.95 | 11.82 | 11.81 | 12.1 | 12.4 | 12.72 | 11.77 | 8.93 |
| CarTech Micro-Melt® NT-65     | 12.31 | 11.24 | 11.47 | 11.55 | 11.51 | 11.34 | 11.34 | 11.6 | 12.1 | 12.45 | 11.54 | 8.80 |
| CarTech Micro-Melt® NT-50 SPH | 10.47 | 9.68  | 10.00 | 10.11 | 10.05 | 9.82  | 9.82  | 10.2 | 10.8 | 11.34 | 10.55 | 8.16 |

**Other (powder products)**

| Alloy Description               | Jan  | Feb  | Mar  | Apr  | May  | Jun  | Jul  | Aug  | Sep  | Oct  | Nov  | Dec  |
|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| CarTech Micro-Melt® Pyrowear 53 | 0.65 | 0.56 | 0.60 | 0.63 | 0.63 | 0.63 | 0.61 | 0.61 | 0.64 | 0.65 | 0.62 | 0.50 |
| Micro-Melt® Glass Sealing 18    | 0.31 | 0.22 | 0.23 | 0.23 | 0.25 | 0.26 | 0.24 | 0.24 | 0.24 | 0.23 | 0.20 | 0.20 |
| CarTech UltraFine® 1.4923       | 2.33 | 2.01 | 1.93 | 1.80 | 1.43 | 1.15 | 1.01 | 0.94 | 0.88 | 0.85 | 0.82 | 0.63 |
| CarTech Micro-Melt® 901         | 2.12 | 2.18 | 2.51 | 2.66 | 2.59 | 2.39 | 2.38 | 2.72 | 3.28 | 3.77 | 3.62 | 2.99 |
| CarTech Micro-Melt® 5120        | 0.23 | 0.15 | 0.16 | 0.16 | 0.17 | 0.18 | 0.15 | 0.15 | 0.15 | 0.13 | 0.11 | 0.11 |
| CarTech UltraFine® 1.4848       | 1.65 | 1.62 | 1.70 | 1.71 | 1.60 | 1.42 | 1.40 | 1.5  | 1.73 | 1.93 | 1.85 | 1.55 |

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