

# HELICOIL® Plus Free Running thread inserts

Stainless steel A2 | coloured green | Metric fine thread



**Advantages:**

- High thread loading
- Increased quality and value
- Wear-resistant, low and constant thread friction
- Highly resilient
- Corrosion and temperature resistant
- Cost-effective
- Tight fit

Technical information can be found on the last page.

| Diameter (d) | Article number | Pitch (P) | D <sub>HC</sub> min. | D <sub>1HC</sub> |       | Nominal length       |                | W    | t <sub>3</sub> max. | B     | d <sub>1</sub> |      |
|--------------|----------------|-----------|----------------------|------------------|-------|----------------------|----------------|------|---------------------|-------|----------------|------|
|              |                |           |                      | min.             | max.  | t <sub>2</sub> (x d) | t <sub>2</sub> |      |                     |       | min.           | max. |
| M 8x1        | 41300083008    | 1.00      | 9.30                 | 8.22             | 8.41  | 1.00                 | 8.0            | 6.1  | 7.5                 | 8.30  | 9.85           | 10.1 |
|              | 41300083012    |           |                      |                  |       | 1.50                 | 12.0           | 9.5  | 11.5                |       |                |      |
|              | 41300083016    |           |                      |                  |       | 2.00                 | 16.0           | 12.9 | 15.5                |       |                |      |
|              | 41300083020    |           |                      |                  |       | 2.50                 | 20.0           | 16.5 | 19.5                |       |                |      |
| M 10x1       | 41300103010    | 1.00      | 11.30                | 10.22            | 10.41 | 1.00                 | 10.0           | 7.6  | 9.5                 | 10.25 | 12.10          | 12.5 |
|              | 41300103015    |           |                      |                  |       | 1.50                 | 15.0           | 12.1 | 14.5                |       |                |      |
|              | 41300103020    |           |                      |                  |       | 2.00                 | 20.0           | 16.3 | 19.5                |       |                |      |
|              | 41300103030    |           |                      |                  |       | 3.00                 | 30.0           | 25.0 | 29.5                |       |                |      |
| M 10x1.25    | 41300109010    | 1.25      | 11.62                | 10.27            | 10.48 | 1.00                 | 10.0           | 6.0  | 9.4                 | 10.40 | 12.10          | 12.5 |
|              | 41300109015    |           |                      |                  |       | 1.50                 | 15.0           | 9.7  | 14.4                |       |                |      |
|              | 41300109020    |           |                      |                  |       | 2.00                 | 20.0           | 13.1 | 19.4                |       |                |      |
|              | 41300109025    |           |                      |                  |       | 2.50                 | 25.0           | 16.9 | 24.4                |       |                |      |
| M 12x1       | 41300123012    | 1.00      | 13.30                | 12.22            | 12.41 | 1.00                 | 12.0           | 9.3  | 11.5                | 12.25 | 14.40          | 14.8 |
|              | 41300123018    |           |                      |                  |       | 1.50                 | 18.0           | 14.5 | 17.5                |       |                |      |
|              | 41300123024    |           |                      |                  |       | 2.00                 | 24.0           | 19.5 | 23.5                |       |                |      |
| M 12x1.25    | 41300129012    | 1.25      | 13.62                | 12.27            | 12.48 | 1.00                 | 12.0           | 7.4  | 11.4                | 12.25 | 14.40          | 14.8 |
|              | 41300129018    |           |                      |                  |       | 1.50                 | 18.0           | 11.6 | 17.4                |       |                |      |
|              | 41300129024    |           |                      |                  |       | 2.00                 | 24.0           | 15.9 | 23.4                |       |                |      |
|              | 41300129036    |           |                      |                  |       | 3.00                 | 36.0           | 24.3 | 35.4                |       |                |      |
| M 12x1.5     | 41300124012    | 1.50      | 13.95                | 12.32            | 12.56 | 1.00                 | 12.0           | 6.2  | 11.2                | 12.50 | 14.40          | 14.8 |
|              | 41300124018    |           |                      |                  |       | 1.50                 | 18.0           | 9.8  | 17.2                |       |                |      |
|              | 41300124024    |           |                      |                  |       | 2.00                 | 24.0           | 13.5 | 23.2                |       |                |      |
|              | 41300124030    |           |                      |                  |       | 2.50                 | 30.0           | 17.1 | 29.2                |       |                |      |
| M 14x1       | 41300143014    | 1.00      | 15.30                | 14.22            | 14.41 | 1.00                 | 14.0           | 11.2 | 13.5                | 14.25 | 16.80          | 17.2 |
|              | 41300143021    |           |                      |                  |       | 1.50                 | 21.0           | 17.2 | 20.5                |       |                |      |
|              | 41300149084    |           |                      |                  |       | 0.60                 | 8.4            | 4.6  | 7.8                 |       |                |      |
| M 14x1.25    | 41300149124    | 1.25      | 15.62                | 14.27            | 14.48 | 0.90                 | 12.4           | 7.4  | 11.8                | 14.25 | 16.80          | 17.2 |
|              | 41300149144    |           |                      |                  |       | 1.00                 | 14.4           | 9.1  | 13.8                |       |                |      |
|              | 41300149164    |           |                      |                  |       | 1.20                 | 16.4           | 10.2 | 15.8                |       |                |      |
|              | 41300144014    |           |                      |                  |       | 1.00                 | 14.0           | 7.4  | 13.2                |       |                |      |
| M 14x1.5     | 41300144021    | 1.50      | 15.95                | 14.38            | 14.56 | 1.50                 | 21.0           | 11.6 | 20.2                | 14.50 | 16.80          | 17.2 |
|              | 41300144028    |           |                      |                  |       | 2.00                 | 28.0           | 15.7 | 27.2                |       |                |      |
|              | 41300144035    |           |                      |                  |       | 2.50                 | 35.0           | 19.9 | 34.2                |       |                |      |

All technical data refer to the measure mm



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| Diameter (d) | Article number | Pitch (P) | D <sub>HC</sub> min. | D <sub>1HC</sub> |       | Nominal length       |                | W    | t <sub>3</sub> max. | B     | d <sub>1</sub> |      |
|--------------|----------------|-----------|----------------------|------------------|-------|----------------------|----------------|------|---------------------|-------|----------------|------|
|              |                |           |                      | min.             | max.  | t <sub>2</sub> (x d) | t <sub>2</sub> |      |                     |       | min.           | max. |
| M 16x1.5     | 41300164016    | 1.50      | 17.95                | 16.32            | 16.56 | 1.00                 | 16.0           | 8.7  | 15.2                | 16.50 | 19.00          | 19.4 |
|              | 41300164024    |           |                      |                  |       | 1.50                 | 24.0           | 13.4 | 23.2                |       |                |      |
|              | 41300164032    |           |                      |                  |       | 2.00                 | 32.0           | 18.1 | 31.2                |       |                |      |
|              | 41300164040    |           |                      |                  |       | 2.50                 | 40.0           | 22.9 | 39.2                |       |                |      |
| M 18x1.5     | 41300184009    | 1.50      | 19.95                | 18.32            | 18.56 | 0.50                 | 9.0            | 4.2  | 8.2                 | 18.50 | 21.50          | 22.0 |
|              | 41300184018    |           |                      |                  |       | 1.00                 | 18.0           | 9.5  | 17.2                |       |                |      |
|              | 41300184027    |           |                      |                  |       | 1.50                 | 27.0           | 14.9 | 26.2                |       |                |      |
|              | 41300184036    |           |                      |                  |       | 2.00                 | 36.0           | 20.2 | 35.2                |       |                |      |
|              | 41300184135    |           |                      |                  |       | 0.75                 | 13.5           | 7.0  | 12.7                |       |                |      |
| M 18x2       | 41300185018    | 2.00      | 20.60                | 18.43            | 18.72 | 1.00                 | 18.0           | 7.1  | 17.0                | 18.50 | 21.50          | 22.0 |
|              | 41300185027    |           |                      |                  |       | 1.50                 | 27.0           | 11.2 | 26.0                |       |                |      |
|              | 41300185036    |           |                      |                  |       | 2.00                 | 36.0           | 15.1 | 35.0                |       |                |      |
| M 20x1.5     | 41300204010    | 1.50      | 21.95                | 20.32            | 20.56 | 0.50                 | 10.0           | 4.9  | 9.2                 | 20.50 | 23.70          | 24.2 |
|              | 41300204015    |           |                      |                  |       | 0.75                 | 15.0           | 7.9  | 14.2                |       |                |      |
|              | 41300204020    |           |                      |                  |       | 1.00                 | 20.0           | 10.7 | 19.2                |       |                |      |
|              | 41300204030    |           |                      |                  |       | 1.50                 | 30.0           | 16.7 | 29.2                |       |                |      |
|              | 41300204040    |           |                      |                  |       | 2.00                 | 40.0           | 22.4 | 39.2                |       |                |      |
| M 20x2       | 41300205015    | 2.00      | 22.60                | 20.43            | 20.73 | 0.75                 | 15.0           | 5.8  | 14.0                | 20.50 | 23.70          | 24.2 |
|              | 41300205020    |           |                      |                  |       | 1.00                 | 20.0           | 8.0  | 19.0                |       |                |      |
|              | 41300205030    |           |                      |                  |       | 1.50                 | 30.0           | 12.5 | 29.0                |       |                |      |
|              | 41300205040    |           |                      |                  |       | 2.00                 | 40.0           | 16.8 | 39.0                |       |                |      |
| M 22x1.5     | 41300224011    | 1.50      | 23.95                | 22.32            | 22.56 | 0.50                 | 11.0           | 5.5  | 10.2                | 22.50 | 26.30          | 26.8 |
|              | 41300224022    |           |                      |                  |       | 1.00                 | 22.0           | 11.7 | 21.2                |       |                |      |
|              | 41300224033    |           |                      |                  |       | 1.50                 | 33.0           | 18.1 | 32.2                |       |                |      |
|              | 41300224044    |           |                      |                  |       | 2.00                 | 44.0           | 24.5 | 43.2                |       |                |      |
|              | 41300224165    |           |                      |                  |       | 0.75                 | 16.5           | 8.6  | 15.7                |       |                |      |
| M 22x2       | 41300225044    | 2.00      | 24.60                | 22.43            | 22.73 | 2.00                 | 44.0           | 18.4 | 43.0                | 22.50 | 26.30          | 26.8 |
| M 24x1.5     | 41300244012    | 1.50      | 25.95                | 24.33            | 24.56 | 0.50                 | 12.0           | 6.0  | 11.2                | 24.50 | 28.60          | 29.1 |
|              | 41300244018    |           |                      |                  |       | 0.75                 | 18.0           | 9.5  | 17.2                |       |                |      |
|              | 41300244024    |           |                      |                  |       | 1.00                 | 24.0           | 12.9 | 23.2                |       |                |      |
|              | 41300244036    |           |                      |                  |       | 1.50                 | 36.0           | 19.8 | 35.2                |       |                |      |
|              | 41300244048    |           |                      |                  |       | 2.00                 | 48.0           | 26.7 | 47.2                |       |                |      |
| M 24x2       | 41300245036    | 2.00      | 26.60                | 24.43            | 24.73 | 1.50                 | 36.0           | 15.0 | 35.0                | 24.50 | 28.60          | 29.1 |
|              | 41300245048    |           |                      |                  |       | 2.00                 | 48.0           | 20.2 | 47.0                |       |                |      |
| M 26x1.5     | 41300264013    | 1.50      | 27.95                | 26.33            | 26.56 | 0.50                 | 13.0           | 6.5  | 12.2                | 26.50 | 31.00          | 31.5 |
|              | 41300264026    |           |                      |                  |       | 1.00                 | 26.0           | 14.0 | 25.2                |       |                |      |
|              | 41300264039    |           |                      |                  |       | 1.50                 | 39.0           | 21.6 | 38.2                |       |                |      |
|              | 41300264052    |           |                      |                  |       | 2.00                 | 52.0           | 29.1 | 51.2                |       |                |      |
|              | 41300264195    |           |                      |                  |       | 0.75                 | 19.5           | 10.3 | 18.7                |       |                |      |
| M 27x1.5     | 41300274027    | 1.50      | 28.95                | 27.33            | 27.56 | 1.00                 | 27.0           | 14.6 | 26.2                | 27.50 | 32.20          | 32.7 |
|              | 41300274135    |           |                      |                  |       | 0.50                 | 13.5           | 6.7  | 12.7                |       |                |      |
|              | 41300274405    |           |                      |                  |       | 1.50                 | 40.5           | 22.6 | 39.7                |       |                |      |
| M 27x2       | 41300275027    | 2.00      | 29.60                | 27.43            | 27.73 | 1.00                 | 27.0           | 10.8 | 26.0                | 29.60 | 32.20          | 32.7 |
|              | 41300275054    |           |                      |                  |       | 2.00                 | 54.0           | 22.6 | 53.0                |       |                |      |
|              | 41300275203    |           |                      |                  |       | 0.75                 | 20.3           | 7.9  | 19.3                |       |                |      |
|              | 41300275405    |           |                      |                  |       | 1.50                 | 40.5           | 16.8 | 39.5                |       |                |      |
| M 28x1.5     | 41300284028    | 1.50      | 29.95                | 28.33            | 28.56 | 1.00                 | 28.0           | 15.2 | 27.2                | 28.50 | 33.10          | 33.6 |
| M 30x1.5     | 41300304015    | 1.50      | 31.95                | 30.33            | 30.56 | 0.50                 | 15.0           | 7.8  | 14.2                | 30.50 | 35.20          | 35.7 |
|              | 41300304030    |           |                      |                  |       | 1.00                 | 30.0           | 16.5 | 29.2                |       |                |      |
|              | 41300304045    |           |                      |                  |       | 1.50                 | 45.0           | 25.3 | 44.2                |       |                |      |
|              | 41300304060    |           |                      |                  |       | 2.00                 | 60.0           | 34.0 | 59.2                |       |                |      |
|              | 41300304225    |           |                      |                  |       | 0.75                 | 22.5           | 12.2 | 21.7                |       |                |      |

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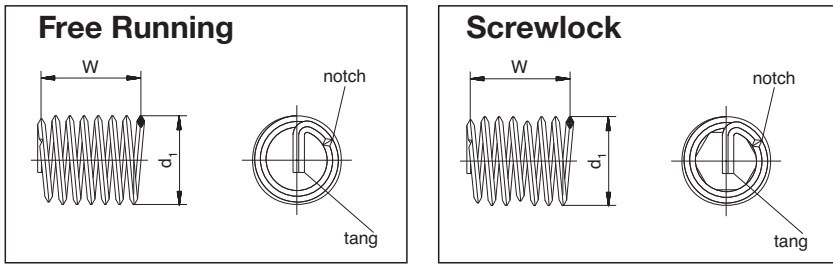
Stainless steel A2 | coloured green | Metric fine thread

| Diameter (d) | Article number | Pitch (P) | D <sub>HC</sub> min. | D <sub>1HC</sub> |       | Nominal length       |                | W    | t <sub>3</sub> max. | B     | d <sub>1</sub> |      |
|--------------|----------------|-----------|----------------------|------------------|-------|----------------------|----------------|------|---------------------|-------|----------------|------|
|              |                |           |                      | min.             | max.  | t <sub>2</sub> (x d) | t <sub>2</sub> |      |                     |       | min.           | max. |
| M 30x2       | 41300305015    | 2.00      | 32.60                | 30.43            | 30.73 | 0.50                 | 15.0           | 5.7  | 14.0                | 30.50 | 35.20          | 35.7 |
|              | 41300305030    |           |                      |                  |       | 1.00                 | 30.0           | 12.3 | 29.0                |       |                |      |
|              | 41300305045    |           |                      |                  |       | 1.50                 | 45.0           | 19.0 | 44.0                |       |                |      |
|              | 41300305060    |           |                      |                  |       | 2.00                 | 60.0           | 25.5 | 59.0                |       |                |      |
| M 33x2       | 41300335033    | 2.00      | 35.60                | 33.43            | 33.73 | 1.00                 | 33.0           | 13.7 | 32.0                | 33.50 | 38.30          | 38.8 |
|              | 41300335165    |           |                      |                  |       | 0.50                 | 16.5           | 6.4  | 15.5                |       |                |      |
|              | 41300335495    |           |                      |                  |       | 1.50                 | 49.5           | 21.2 | 48.5                |       |                |      |
| M 36x1.5     | 41300364018    | 1.50      | 37.95                | 36.33            | 36.56 | 0.50                 | 18.0           | 9.5  | 17.2                | 36.50 | 42.10          | 42.6 |
|              | 41300364036    |           |                      |                  |       | 1.00                 | 36.0           | 19.9 | 35.2                |       |                |      |
| M 36x2       | 41300365018    | 2.00      | 38.60                | 36.43            | 36.73 | 0.50                 | 18.0           | 6.8  | 17.0                | 36.50 | 42.10          | 42.6 |
|              | 41300365054    |           |                      |                  |       | 1.50                 | 54.0           | 21.9 | 53.0                |       |                |      |
| M 36x3       | 41300366036    | 3.00      | 39.90                | 36.65            | 37.05 | 1.00                 | 36.0           | 9.9  | 34.5                | 37.00 | 42.10          | 42.6 |
|              | 41300366054    |           |                      |                  |       | 1.50                 | 54.0           | 12.3 | 52.5                |       |                |      |
|              | 41300366072    |           |                      |                  |       | 2.00                 | 72.0           | 16.6 | 70.5                |       |                |      |
| M 39x2       | 41300395488    | 2.00      | 41.60                | 39.43            | 39.73 | 1.25                 | 48.8           | 13.7 | 44.3                | 39.50 | 45.10          | 45.6 |
| M 39x3       | 41300396039    | 3.00      | 42.90                | 39.65            | 40.05 | 1.00                 | 39.0           | 10.6 | 34.6                | 40.00 | 45.10          | 45.6 |

All technical data refer to the measure mm

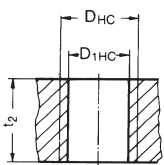


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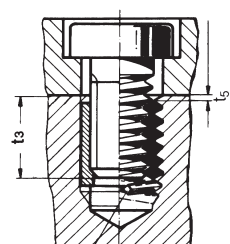
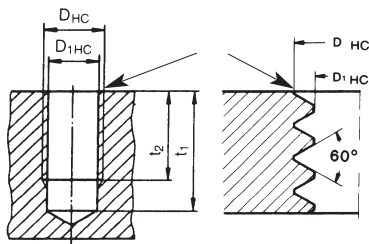
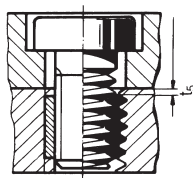


W and  $d_1$  are the control values for thread inserts (Free Running and Screwlock) before they have been installed. The length can only be measured for installed thread inserts.

### Holding thread



### Assembly



tang not broken off

Prior to tapping, counter-bore 90° and deburr.  
Outside diameter of countersink =  $D_{HC} + 0.1 \text{ mm}$ .

- d = Nominal thread diameter
- P = Thread pitch
- $d_1$  = Outside diameter of thread insert prior to installation
- W = Number of threads prior to installation
- $D_{HC}$  = Outside diameter of the parent thread
- $D_{1HC}$  = Crest diameter
- B = Suitable twist drill diameter. Please note:  $D_{1HC}$  is critical for selecting the correct twist drill diameter.
- $t_1$  = Minimum depth of tapped hole according to DIN 76 – Part 1 (guide value)
- $t_2$  = The nominal length of the thread insert corresponds to the minimum length of the full parent thread for blind holes or the minimum plate thickness for a through hole.
- $t_3$  = Maximum screw-in depth when the tang is not removed
- $t_5$  = Distance of the thread insert from the joint face = 0.25 to 0.5 P, if  $t_2$  corresponds to the above-mentioned minimum value

When you use HELICOIL® Plus thread inserts for volume production, we recommend to add at least  $1 \times P$  to values  $t_1$  and  $t_2$ .

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