

ESTABLISHED 1790

# WILLIAM HUGHES LIMITED

## Webster & Horsfall Limited Wire Datasheet

### Hard Drawn Spring Wire

**Applications:** Mechanical springs extension and torsion.

**Standards:** Wire drawn to the widest range of standards in the world.

**Diameter range:** 0.1mm - 9.5mm

**Tensile range:** 930 - 3780 N/mm<sup>2</sup>

Tensile Examples	Minimum	Maximum
0.1mm	2160 N/mm <sup>2</sup>	3780 N/mm <sup>2</sup>
3.0mm	1250 N/mm <sup>2</sup>	2150 N/mm <sup>2</sup>
4.0mm	1170 N/mm <sup>2</sup>	1920 N/mm <sup>2</sup>
9.0mm	940 N/mm <sup>2</sup>	1540 N/mm <sup>2</sup>
9.5mm	930 N/mm <sup>2</sup>	1390 N/mm <sup>2</sup>

**Finish:** Phosphate coated (plain).

Dry drawn wire with soap lubrications grey in colour.

Finish	
Wet drawn	Oil drawn polished finish
Galvanised	Drawn after galvanising (wet or dry drawn)
Tinned	Final hot dip tin coat
Linished	Mechanically ground polish finish (finally oiled)

Other finishes on request

**Shaped:** The above can also be supplied in shaped wire.

**Packaging:** Catchweight coils, Reels/Spools (plastic), Metal Reels (up to 300kgs) Formers, Cut Lengths, Specific Coil Weights/Sizes.



**William Hughes (UK) Limited**  
Station Road, Stalbridge, DORSET, DT10 2RZ  
Tel: +44 (0) 1963 363 377 Fax +44 (0) 1963 363 640  
Email: [sales@wmhughes.co.uk](mailto:sales@wmhughes.co.uk)  
Registered Office Address: Southernhay, Suite 7, 207 Hook Road, Chessington,  
Surrey KT9 1HJ



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### Oil Tempered Wire

**Applications:** Obtained by in-line hardening + tempering, these wires are ideal for quality springs in high stress environments.

Where good mechanical properties are required.

**Standards for Oil Tempered Wires:** Wire drawn to the widest range of standards in the world.

#### Diameter range:

Material	Range
Carbon	0.76mm - 9.5mm
Chrome Vanadium	1.4mm - 10.0mm
Silicon Chrome	1.1mm - 10.0mm

#### Tensile range:

Material	Range
Carbon	1290 N/mm <sup>2</sup> - 2050 N/mm <sup>2</sup>
Chrome Vanadium	1370 N/mm <sup>2</sup> - 2030 N/mm <sup>2</sup>
Silicon Chrome	1500 N/mm <sup>2</sup> - 2230 N/mm <sup>2</sup>

**Finish:** Black oxide (Controlled scale) with protective oil

**Annealed:** All of the above wires are available in the annealed, or annealed and lightly drawn condition. For hardening and tempering after spring formation.

**Shaped:** The above can also be supplied in shaped wire

**Packaging:** Catchweight coils up to 500kgs, Formers, Cut Lengths, Specific Coil Weights/Sizes.

Normal condition of supply is cast to fly straight, but all sizes can be cast to black if required.



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### Drawn Square Wire

Hard drawn Carbon spring wire: 0.71mm - 8.0mm

Stainless spring wire: 0.8mm - 5.53mm

Annealed Carbon and low alloy spring wire: 0.8mm - 9.5mm

Rolled section wire Carbon and stainless steel wire  
(stainless by special arrangement - maximum width 4mm)

Width maximum 9.5mm Thickness range 0.5mm - 3.26mm  
1.0mm 0.4mm - 0.9 mm

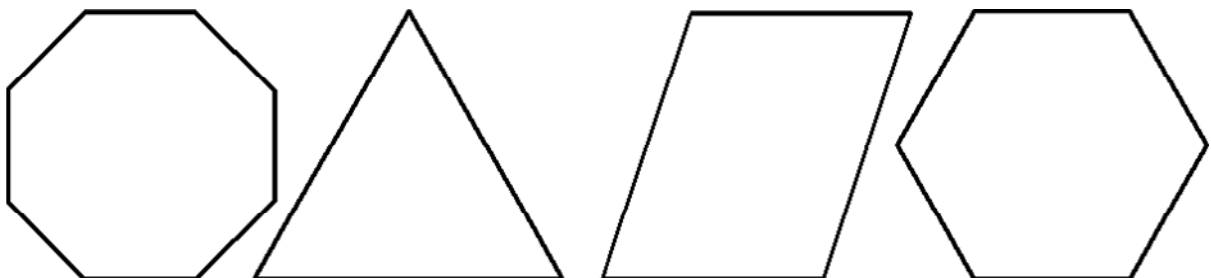
Oil tempered Carbon and low alloy spring steel wire (round edge only)

Width maximum 12.5mm Thickness range 1.63mm-6.35mm 1.27mm 0.5mm -  
1.0mm

Annealed Carbon and low alloy

Width maximum 12.5mm Thickness range 0.5mm - 6.35mm 1.0mm 0.4mm -  
0.89mm

Special shapes and sections - we can draw any shape



Al and HM rope sections, special spring wire sections, ie diamonds, hexagons and trapezoidals, can be manufactured by special arrangement.



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### Stainless Steel Wire (Austenitic)

**Applications:** Corrosion resistant mechanical springs, extension, compression and tension.

**Standard for Types 302, 316 or 321:** Wire drawn to the widest range of standards in the world.

**Diameter range:**

0.1mm - 9.5mm (Type 302)  
0.1mm - 4.0mm (Type 316 + 321)

**Tensile range:**

695 N/mm<sup>2</sup> - 2600 N/mm<sup>2</sup>

**Finish:**

Finish Phosphate coated (plain) Dry drawn wire with soap lubricants. Wet drawn Oil drawn polished finish.

Finished Mechanically ground polish finish.

Degreased Chemically degreased / desoaped (in coil only).

**Shaped:** The above can also be supplied in shaped wire.

**Packaging:** Catchweight coils, Reels/Spools (plastic), Metal Reels (up to 300kgs), Cut Lengths, Specific Coil Weights/Sizes.



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### Packaging for Wire

All wire can be supplied as specified below.

**Coil weights:** Other than catch weights;

0.15mm - 1.64mm Any wire size  
125gms - 5kg  
250gms - 10kgs  
500gms - 25kgs  
1kg - 50kgs

**Large coils:** Up to 500kgs coils can be produced from 5mm diameter and above

**Fibre reels:**

Wire sizes weight (approx)  
250mm 0.15mm-0.61mm 25kgs  
200mm 0.15mm-0.61mm 15kgs  
180mm 0.15mm-0.61mm 5kgs

**Plastic reels:**

DIN 355 0.31mm - 0.7mm 30kgs DIN 250  
0.31mm - 0.7mm 20kgs DIN 200 0.15mm  
- 0.7mm 15kgs DIN 160 0.15mm - 0.7mm  
7.5kgs C15 0.15mm - 0.7mm 1kg  
C12 0.15mm - 0.7mm 0.5kg

**Metal reels:**

760mm 0.7mm-2.95mm 300 kgs  
560mm 0.6mm-1.6mm 150kgs  
355mm 0.3mm-0.7mm 30kgs

**Formers:** All wire above 1.2mm can be supplied on formers

**Cut lengths:**

Size range Length (min - max)  
0.9mm - 4mm 500mm - 2.75metres  
4mm-6mm 500mm - 4 metres  
6mm - 10mm 1 metre - 4 metre



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