

## INTERLOCKED METAL HOSE

Also referred to as strip-wound metal hose, interlocked metal hose is manufactured from a single metal strip wound around a mandrel. It's generally more flexible than corrugated metal hose, used in medium pressure applications (15-20 PSI), and is not liquid tight. Interlocked hose can be manufactured with a smooth bore liner that provides additional abrasion resistance and reduces degradation of the transferred materials. They can also be manufactured with various packing materials, such as fabrics and elastomers, to make a more pressure tight hose. Interlock hoses are generally used for dry bulk material handling, in exhaust applications, or as a protective cover for plastic or rubber hoses.



### HT4000 Series Rough Bore

Hose Material	Series	Hose Weight	Hose Size ID	Length
HT <input type="checkbox"/>	4 <input type="checkbox"/>	<input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> x <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
G - Galvanized S - Stainless		100 - Extra light weight 150 - Light weight 200 - Medium weight 250 - Heavy weight 300 - Extra heavy weight	138 or 1-3/8" through 1600 or 16"	In feet

### HT5000 Series Smooth Bore

Material: Armor/Liner	Series	Hose Weight	Hose Size ID	Length
HT <input type="checkbox"/> <input type="checkbox"/>	5 <input type="checkbox"/>	<input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> x <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
G - Galvanized S - Stainless		150 - Light weight armor/ Light weight liner 180 - Medium weight armor/ Light weight liner 250 - Heavy weight armor/ Medium weight liner	150 or 1-1/2" through 1600 or 16"	In feet

## CORRUGATED METAL HOSE

Corrugated metal hose is manufactured from a metal strip that's rolled and welded together, with corrugations added to increase flexibility. The corrugations are available in annular or helical patterns. Annular corrugations are parallel and independent of one another. They are more common than helical corrugations as they're generally more flexible. Helical patterns consist of a single corrugation that runs around the entire length of the hose, and better allow liquid to drain from the hose. Single or double layer metal braids are often added to the exterior of corrugated hose to increase the pressure rating which can exceed 3,000 PSI. Therefore, corrugated hoses are generally used in high pressure applications involving fluids or gasses.



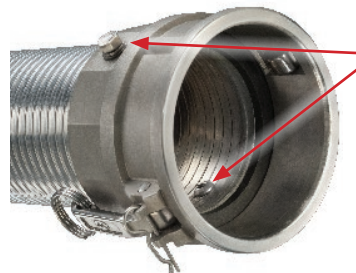
## PACKING MATERIALS

Packing materials are commonly inserted into a specially designed groove within the interlocked hose to make it more pressure tight. Various packing materials are available based on the particular requirements of the application. Packing is particularly common in powder transfer applications where a tighter seal is required.

Packing Materials	Maximum Temperature (°F)	Primary Benefits
Fiber (Cotton)	300	Economical
Fiber (Apyrous)	700	High Temperature Resistance
Elastomer (NR)	180	Highest Pressure & Vacuum Ratings
Elastomer (Silicone)	500	Highest Pressure & Vacuum Ratings; High Temperature Resistance
Metal (Stainless Steel)	1,500	Highest Temperature Resistance

## EPOXY/BOLT CONNECTION

The process of welding ends onto the hose has a tendency to burn and damage most packing materials near the area of the weld (except the stainless steel packing). This results in areas that are less pressure tight near the ends. Hose Tec has designed a process by which the couplings are attached with a high strength adhesive and secured with two bolts, thereby not damaging the packing.



Round headed bolts are used inside as to not cause an obstruction of the transferred materials.

## TOES

TOE (threaded one end) couplings consist of a plain end x NPT thread, welded onto the hose, allowing for easy coupling attachment and interchangeability with NPT couplings.

TOE couplings are commonly used with interlock hose in order that the end user can easily replace couplings in the field, should one become damaged. Alternatively, had the cam lock or flange been welded directly to the hose, they would need to return it for repair.

TOE couplings are also commonly used with corrugated hose in order to provide adaptability for different piping configurations. The end user can use the TOE fitting to connect to female couplers, elbows, cam locks, ball valves, or female unions.



TOE ends allow for easy fitting replacement and interchangeability in the field.

### Commonly Used Metal Hose Terms

**Abrasion** — Scuffing, rubbing or wear of a hose or braid surface.

**Ambient Conditions** — The surrounding environment to which a hose assembly is subjected. This includes temperature, corrosion and extreme physical conditions.

**Annular** — With reference to the convolution form, meaning independent corrugations straight and parallel.

**Armor** — Flexible interlocked tubing placed over the entire length, or in short lengths, at the ends of a metal hose to protect it from physical damage and to help protect from over bending.

**ASME** — American Society of Mechanical Engineers.

**Bend Radius** — The centerline radius of a hose in a bent condition.

**Braid** — A flexible metal sheath surrounding metal hose that prevents the hose from elongating under pressure. Braid is composed of a number of wires wrapped helically around the hose while at the same time going over and under each other in a basket weave fashion.

**Compressed** — Interlocked hose in its completely closed state.

**Extended** — Interlocked hose in its completely open state.

**Fatigue** — The process of failure in a metal hose associated with motion or pressure.

**Floppy Interlock “Floppy Guard”** — Constructed for maximum flexibility.

**Helical** — With reference to the convolution form, meaning one single convolution generated along the axis of the tube in a manner similar to a screw thread.

**Interlocked Hose** — Formed from profiled strip and would into flexible metal tubing with no subsequent welding, brazing, or soldering. May be made pressure tight by winding in strands of packing.

**Intermittent Bend Radius** — The designation for a radius used for non-continuous operation. Usually in an elastic radius.

**Minimum Bend Radius** — The smallest radius to which a hose is permitted to be bent, generally applicable only to static conditions. Sometimes referred to as static bend radius.

**Natural Lie (Relaxed)** — Interlocked hose halfway between the compressed and extended state.

**Offset** — A condition wherein the ends of a hose are displaced laterally with respect to each other with the ends being in parallel planes. Sometimes referred to as lateral offset, shear, or parallel offset.

**Operating Conditions** — The designation of pressure, temperature, motion media and environment. Used interchangeably with “application.”

**Packing** — Material inserted into the windings of interlocked hose to make it less susceptible to leaking.

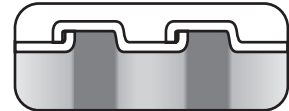
**Pressure** — The internal hydraulic or pneumatic force applied to a metal hose.

**Rough Bore (Unlined)** — Interlocking metal hose that allows movement of media in either direction.

**Smooth Bore (Lined)** — Interlocking metal hose that uses an additional strip to create a smooth transition of media in one direction only.

**Square Cutting** — Cutting the end of a metal hose so that the end will be completely flush with a fitting for attaching.

**Squarelocked Hose** — Flexible metal hose that is not mechanically locked together.



**Standard Interlock** — Flexible interlocked hose that offers flexibility, strength and service life.



**TOE** — Threaded one end

**Torque** — A force that produces rotation on an interlocked hose.

**Vacuum** — Negative pressure or suction.