

# FORMTUBE<sup>®</sup>

## TUBING



**Air Intakes**

**Automotive Parts**

**Exhaust Systems**

**Low Pressure  
Non-Hydraulic**



AK Tube's FORMTUBE is a high quality, cost-saving solution for low pressure transmission applications and applications requiring severe formability for bending, double flaring or beading.

FORMTUBE has achieved widespread customer acceptance as a reliable and cost-effective alternative to the SAE J356 specification. FORMTUBE is manufactured through AK Tube's innovative tube making process using a specially formulated base material which minimizes the strain hardening of the steel. This combination results in a product with the formability, double flaring and bending requirements needed to exceed SAE J356 specifications.

# FORMTUBE® TUBING

## Product Description

FORMTUBE can provide a cost-saving solution to engineers and purchasing agents who have commonly purchased tubing to the SAE J356 specification because FORMTUBE exhibits high formability in the non-annealed condition. FORMTUBE has typical elongation of 46% (critical for formability) compared to the SAE J356 minimum elongation requirement of 35%.

A major heavy equipment manufacturer has approved FORMTUBE for low-pressure applications. This manufacturer's specification requirements are identical to that required by the SAE J356 specification. FORMTUBE successfully satisfies the product performance requirements in the non-annealed condition for this application.

FORMTUBE is manufactured in accordance with either ASTM A-513 Type 2 (Electric Resistance Welded Carbon and Alloy Steel Mechanical Tubing-Cold Rolled) or ASTM A-787 (Welded Metallic Coated Carbon Steel Mechanical Tubing) specifications. FORMTUBE is available in cold rolled, aluminized, galvanized or zinc-nickel material types.

### SPECIFICATIONS

Composition		(wt %)
Carbon	(C)	0.02 – 0.06
Manganese	(Mn)	0.25 max.
Phosphorous	(P)	0.02 max.
Sulfur	(S)	0.02 max.

ASTM A513	Type 2
ASTM A787	Type 1

### OTHER APPLICATIONS

Air intake tubes for diesel generators, fuel filler neck tubes, radiator tubes, fluid line tubing, vent tubes, exhaust tubes, hydroform tubes and alternative to standard 1008-AKDQ.

### TECHNICAL ASSISTANCE

For additional information or to obtain samples of this product, contact our Technical Service Department at 800.955.8031 or at [sales@aktube.com](mailto:sales@aktube.com).

# FORMTUBE® TUBING

## Tables

**TABLE 1 – STEEL TUBING CAPABILITIES AND WEIGHT PER FOOT**

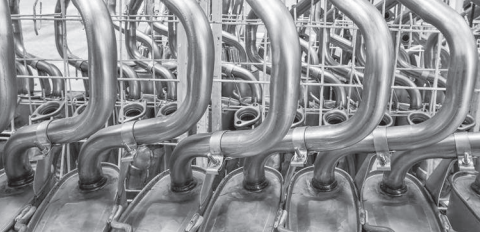
OD, in.	Gauge/NOM						
	20	18	16	14	13	12	11
	0.035	0.049	0.065	0.083	0.095	0.109	0.12
0.75	0.267	0.367	0.476	0.591	–	–	–
0.875	0.314	0.432	0.562	0.702	–	–	–
1	0.361	0.498	0.649	0.813	–	–	–
1.25	0.454	0.629	0.823	1.034	1.172	1.328	1.448
1.5	0.548	0.759	0.996	1.256	1.426	1.619	1.769
1.75	0.641	0.89	1.17	1.478	1.679	1.91	2.089
1.875	0.688	0.956	1.257	1.589	1.806	2.056	2.249
2	0.735	1.021	1.343	1.699	1.933	2.201	2.409
2.25	–	1.152	1.517	1.921	2.186	2.492	2.73
2.5	–	1.283	1.69	2.143	2.44	2.783	3.05
2.75	–	1.413	1.864	2.364	2.694	3.074	3.371
3	–	1.544	2.037	2.586	2.947	3.365	3.691
3.5	–	1.806	2.385	3.029	3.455	3.948	4.332
4	–	2.068	2.732	3.472	3.962	4.53	4.973
4.5	–	–	3.079	3.915	4.469	5.112	5.613
5	–	–	3.426	4.359	4.977	5.694	6.254
6	–	–	4.12	5.245	5.991	6.858	7.536

*Note: shapes and metric sizes are available upon request.*

**TABLE 2 – TYPICAL MECHANICAL PROPERTIES**

YS, (psi.)	UTS, (psi.)	Elongation	Rockwell Hardness	Flash Control
25,000 min.	40,000 min.	35% min.	B65 max.*	+/- 0.005

*With the exception of the weld seam.*



## MAKING TUBING... AND A DIFFERENCE IN THE LIVES OF OTHERS

- Serving our customers better than any other tubemaker
- World-class research and innovation center
- Producing the most diversified product line in the steel industry
- Award winning safety performance
- Recognized for excellence in steelmaking
- Giving back to the communities where we work and live



## ABOUT AK TUBE

AK Tube LLC, a subsidiary of AK Steel, was founded of 1976 and has grown to have three mills across the Midwest and Mexico. All of the Midwest facilities are certified in ISO 9002, QS 9000, TS/ISA 16949 requirements. In 2016, construction began on a new facility in Querétaro, Mexico and is now TS / ISO 16949 certified. AK Tube welcomes the opportunity to serve customers Electric Resistance Welded (ERW) mechanical carbon and stainless steel tubing needs.

Locations for AK Tube facilities are located in Wallbridge, Ohio, Columbus, Indiana, and Querétaro, Mexico. With the commitment and dedication to meet the needs of the customer, AK Tube offers innovative solutions with a wide breadth of steel, diameter, gauge and shape capabilities, and has the expertise necessary to meet our customers' tubing requirements. The AK Tube team is dedicated to being the leader in safely producing superior products with pride and integrity. The commitment to safety was recently recognized with the Rusy Demeules Safety Award for outstanding safety at the Columbus, Indiana facility. AK Tube aims to provide increased profitability through mutually beneficial relationships with our employees, customers and suppliers.



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AK Tube LLC is a wholly owned subsidiary of AK Steel.

AK Steel is a leading producer of flat-rolled carbon, stainless and electrical steel products, primarily for the automotive, infrastructure and manufacturing, including electrical power, and distributors and converters markets. Through its subsidiaries, the company also provides customer solutions with carbon and stainless steel tubing products, die design and tooling, and hot- and cold-stamped components. Headquartered in West Chester, Ohio (Greater Cincinnati), the company has approximately 9,500 employees at manufacturing operations in the United States, Canada and Mexico, and facilities in Western Europe. Additional information about AK Steel is available at [www.aksteel.com](http://www.aksteel.com).

The information and data in this document are accurate to the best of our knowledge and belief, but are intended for general information only. Applications suggested for the materials are described only to help readers make their own evaluations and decisions, and are neither guarantees nor to be construed as express or implied warranties of suitability for these or other applications.

Data referring to material properties are the result of tests performed on specimens obtained from specific locations of the products in accordance with prescribed sampling procedures; any warranty thereof is limited to the values obtained at such locations and by such procedures. There is no warranty with respect to values of the materials at other locations.