

# Dura-Form™

## BRAKE DIE



Color Code:  
BLACK

Dura-Form is a heat treated tooling alloy which is oil-quenched and tempered to develop a full balance of mechanical properties. Dura-Form heat treated alloy has every requisite for excellent brake die service, high wear resistance, adequate toughness, high resistance to impact, and good machinability. Dura-Form is stress relieved before the final gag straightening process to ensure a minimum of residual stresses, and to eliminate warping and bowing.

### Typical Analysis

- Carbon .48/.51
- Manganese .87/1.05
- Chromium 1.00/1.25
- Vanadium .20/.30
- Silicon .24/.35
- Molybdenum .25/.35

### Heat Treatment

- **Forging** 1900°–2100°F, cool slowly
- **Annealing** 1400°–1450°F, Brinell 185–195
- **Normalizing** 1600°–1650°F
- **Hardening** 1500°–1600°F, oil-quench
- **Tempering** 300°– 1300°F, average hardness after heat treatment Brinell 241–601

### Applications

- Bead-forming dies
- Bending dies
- Corrugating dies
- Double-decker dies
- Flanging dies
- Multi vee dies
- Offset dies
- Seaming dies

### Features And Advantages

- Heat treated–ready to use
- Free machining
- Machine straightened
- High compressive strength
- Controlled analysis
- Hardened to Brinell 248–293
- High carbon content insures greater resistance to wear
- Machines to a smooth finish without grinding

### Typical Mechanical Properties

Draw	300°F	500°F	800°F	1200°F	1300°F
Tensile	340,000	295,000	231,000	141,500	120,000
Yield psi	327,000	256,000	214,000	129,000	112,000
Elongation	9%	12%	11%	21%	24%
Red. area	24%	31%	33%	56%	60%
BHN	601	560	462	275	248
Rockwell C	58	56	47	28	25

### Dura-Form Shapes And Sizes Available For Immediate Shipment

Squares		Flats							
1/2	3	1/2	3/4	x 3-1/2	x 4	x 4	x 4-1/2	3	
5/8	3-1/2	x 2	x 1	x 4	x 4-1/2	x 4-1/2	x 5	x 4	
1-1/8	4	x 3	x 2	x 4-1/2	x 5	x 5	x 6	x 5	
1-1/4	4-1/2	x 4	x 3	x 5	x 6	x 6	x 8	x 6	
1-1/2	5	5/8	x 4	x 6	x 8	x 8	2-1/2	4	
1-3/4	5-1/2	x 2	1	1-1/4	1-1/2	2	x 3	x 5	
2	6	x 2-1/2	x 1-1/2	x 2	x 2	x 2-1/2	x 3-1/2	x 6	
2-1/4	8	x 4	x 2	x 2-1/2	x 2-1/2	x 3	x 4	x 8	
2-1/2	10	x 4-1/2	x 2-1/2	x 3	x 3	x 3-1/2	x 5		
2-3/4		x 3		x 3-1/2	x 3-1/2	x 4	x 6		

Lengths: 20' R/L. Available for immediate shipment.