



BENDING RADIUS=R20
MATERIAL SPEC. A2019

SHARP EDGES BROKEN 0.2-0.5

| GEN. TOL. NOT SPECIFIED | P.N.O. | NOMENCLATURE | No. OFF. | MATERIAL | HARDNESS | STANDARD | REMARKS |
|-------------------------|--|-----------------|----------|----------|----------|----------|---------|
| UNLDR DIMENSIONS | 0-6 | ±0.1 | | | | | |
| | 6-6.3 | ±0.1 | | | | | |
| | 6.3-2.5 | ±0.3 | | | | | |
| | 2.5-6.3 | ±0.5 | | | | | |
| | 6.3-12.5 | ±0.8 | | | | | |
| | 12.5-25 | ±1.2 | | | | | |
| | 25-50 | ±1.5 | | | | | |
| | 50-100 | ±2.0 | | | | | |
| | 100-200 | ±3.0 | | | | | |
| | 200-500 | ±4.0 | | | | | |
| | 500-1000 | ±5.0 | | | | | |
| | 1000-2000 | ±6.0 | | | | | |
| | 2000-5000 | ±8.0 | | | | | |
| | 5000-10000 | ±10.0 | | | | | |
| | 10000-20000 | ±12.0 | | | | | |
| | 20000-50000 | ±15.0 | | | | | |
| | 50000-100000 | ±20.0 | | | | | |
| | 100000-200000 | ±25.0 | | | | | |
| | 200000-500000 | ±30.0 | | | | | |
| | 500000-1000000 | ±40.0 | | | | | |
| | 1000000-2000000 | ±50.0 | | | | | |
| | 2000000-5000000 | ±60.0 | | | | | |
| | 5000000-10000000 | ±70.0 | | | | | |
| | 10000000-20000000 | ±80.0 | | | | | |
| | 20000000-50000000 | ±100.0 | | | | | |
| | 50000000-100000000 | ±120.0 | | | | | |
| | 100000000-200000000 | ±150.0 | | | | | |
| | 200000000-500000000 | ±200.0 | | | | | |
| | 500000000-1000000000 | ±250.0 | | | | | |
| | 1000000000-2000000000 | ±300.0 | | | | | |
| | 2000000000-5000000000 | ±400.0 | | | | | |
| | 5000000000-10000000000 | ±500.0 | | | | | |
| | 10000000000-20000000000 | ±600.0 | | | | | |
| | 20000000000-50000000000 | ±800.0 | | | | | |
| | 50000000000-100000000000 | ±1000.0 | | | | | |
| | 100000000000-200000000000 | ±1200.0 | | | | | |
| | 200000000000-500000000000 | ±1500.0 | | | | | |
| | 500000000000-1000000000000 | ±2000.0 | | | | | |
| | 1000000000000-2000000000000 | ±2500.0 | | | | | |
| | 2000000000000-5000000000000 | ±3000.0 | | | | | |
| | 5000000000000-10000000000000 | ±4000.0 | | | | | |
| | 10000000000000-20000000000000 | ±5000.0 | | | | | |
| | 20000000000000-50000000000000 | ±6000.0 | | | | | |
| | 50000000000000-100000000000000 | ±8000.0 | | | | | |
| | 100000000000000-200000000000000 | ±10000.0 | | | | | |
| | 200000000000000-500000000000000 | ±12000.0 | | | | | |
| | 500000000000000-1000000000000000 | ±15000.0 | | | | | |
| | 1000000000000000-2000000000000000 | ±20000.0 | | | | | |
| | 2000000000000000-5000000000000000 | ±25000.0 | | | | | |
| | 5000000000000000-10000000000000000 | ±30000.0 | | | | | |
| | 10000000000000000-20000000000000000 | ±40000.0 | | | | | |
| | 20000000000000000-50000000000000000 | ±50000.0 | | | | | |
| | 50000000000000000-100000000000000000 | ±60000.0 | | | | | |
| | 100000000000000000-200000000000000000 | ±80000.0 | | | | | |
| | 200000000000000000-500000000000000000 | ±100000.0 | | | | | |
| | 500000000000000000-1000000000000000000 | ±120000.0 | | | | | |
| | 1000000000000000000-2000000000000000000 | ±150000.0 | | | | | |
| | 2000000000000000000-5000000000000000000 | ±200000.0 | | | | | |
| | 5000000000000000000-10000000000000000000 | ±250000.0 | | | | | |
| | 10000000000000000000-20000000000000000000 | ±300000.0 | | | | | |
| | 20000000000000000000-50000000000000000000 | ±400000.0 | | | | | |
| | 50000000000000000000-100000000000000000000 | ±500000.0 | | | | | |
| | 100000000000000000000-200000000000000000000 | ±600000.0 | | | | | |
| | 200000000000000000000-500000000000000000000 | ±800000.0 | | | | | |
| | 500000000000000000000-1000000000000000000000 | ±1000000.0 | | | | | |
| | 1000000000000000000000-2000000000000000000000 | ±1200000.0 | | | | | |
| | 2000000000000000000000-5000000000000000000000 | ±1500000.0 | | | | | |
| | 5000000000000000000000-10000000000000000000000 | ±2000000.0 | | | | | |
| | 10000000000000000000000-20000000000000000000000 | ±2500000.0 | | | | | |
| | 20000000000000000000000-50000000000000000000000 | ±3000000.0 | | | | | |
| | 50000000000000000000000-100000000000000000000000 | ±4000000.0 | | | | | |
| | 100000000000000000000000-200000000000000000000000 | ±5000000.0 | | | | | |
| | 200000000000000000000000-500000000000000000000000 | ±6000000.0 | | | | | |
| | 500000000000000000000000-1000000000000000000000000 | ±8000000.0 | | | | | |
| | 1000000000000000000000000-2000000000000000000000000 | ±10000000.0 | | | | | |
| | 2000000000000000000000000-5000000000000000000000000 | ±12000000.0 | | | | | |
| | 5000000000000000000000000-10000000000000000000000000 | ±15000000.0 | | | | | |
| | 10000000000000000000000000-20000000000000000000000000 | ±20000000.0 | | | | | |
| | 20000000000000000000000000-50000000000000000000000000 | ±25000000.0 | | | | | |
| | 50000000000000000000000000-100000000000000000000000000 | ±30000000.0 | | | | | |
| | 100000000000000000000000000-200000000000000000000000000 | ±40000000.0 | | | | | |
| | 200000000000000000000000000-500000000000000000000000000 | ±50000000.0 | | | | | |
| | 500000000000000000000000000-1000000000000000000000000000 | ±60000000.0 | | | | | |
| | 1000000000000000000000000000-2000000000000000000000000000 | ±80000000.0 | | | | | |
| | 2000000000000000000000000000-5000000000000000000000000000 | ±100000000.0 | | | | | |
| | 5000000000000000000000000000-10000000000000000000000000000 | ±120000000.0 | | | | | |
| | 10000000000000000000000000000-20000000000000000000000000000 | ±150000000.0 | | | | | |
| | 20000000000000000000000000000-50000000000000000000000000000 | ±200000000.0 | | | | | |
| | 50000000000000000000000000000-100000000000000000000000000000 | ±250000000.0 | | | | | |
| | 100000000000000000000000000000-200000000000000000000000000000 | ±300000000.0 | | | | | |
| | 200000000000000000000000000000-500000000000000000000000000000 | ±400000000.0 | | | | | |
| | 500000000000000000000000000000-1000000000000000000000000000000 | ±500000000.0 | | | | | |
| | 1000000000000000000000000000000-2000000000000000000000000000000 | ±600000000.0 | | | | | |
| | 2000000000000000000000000000000-5000000000000000000000000000000 | ±800000000.0 | | | | | |
| | 5000000000000000000000000000000-10000000000000000000000000000000 | ±1000000000.0 | | | | | |
| | 10000000000000000000000000000000-20000000000000000000000000000000 | ±1200000000.0 | | | | | |
| | 20000000000000000000000000000000-50000000000000000000000000000000 | ±1500000000.0 | | | | | |
| | 50000000000000000000000000000000-100000000000000000000000000000000 | ±2000000000.0 | | | | | |
| | 100000000000000000000000000000000-200000000000000000000000000000000 | ±2500000000.0 | | | | | |
| | 200000000000000000000000000000000-500000000000000000000000000000000 | ±3000000000.0 | | | | | |
| | 500000000000000000000000000000000-1000000000000000000000000000000000 | ±4000000000.0 | | | | | |
| | 1000000000000000000000000000000000-2000000000000000000000000000000000 | ±5000000000.0 | | | | | |
| | 2000000000000000000000000000000000-5000000000000000000000000000000000 | ±6000000000.0 | | | | | |
| | 5000000000000000000000000000000000-10000000000000000000000000000000000 | ±8000000000.0 | | | | | |
| | 10000000000000000000000000000000000-20000000000000000000000000000000000 | ±10000000000.0 | | | | | |
| | 20000000000000000000000000000000000-50000000000000000000000000000000000 | ±12000000000.0 | | | | | |
| | 50000000000000000000000000000000000-100000000000000000000000000000000000 | ±15000000000.0 | | | | | |
| | 100000000000000000000000000000000000-200000000000000000000000000000000000 | ±20000000000.0 | | | | | |
| | 200000000000000000000000000000000000-500000000000000000000000000000000000 | ±25000000000.0 | | | | | |
| | 500000000000000000000000000000000000-1000000000000000000000000000000000000 | ±30000000000.0 | | | | | |
| | 1000000000000000000000000000000000000-2000000000000000000000000000000000000 | ±40000000000.0 | | | | | |
| | 2000000000000000000000000000000000000-5000000000000000000000000000000000000 | ±50000000000.0 | | | | | |
| | 5000000000000000000000000000000000000-10000000000000000000000000000000000000 | ±60000000000.0 | | | | | |
| | 10000000000000000000000000000000000000-20000000000000000000000000000000000000 | ±80000000000.0 | | | | | |
| | 20000000000000000000000000000000000000-50000000000000000000000000000000000000 | ±100000000000.0 | | | | | |
| | 50000000000000000000000000000000000000-100000000000000000000000000000000000000 | ±120000000000.0 | | | | | |
| | 100000000000000000000000000000000000000-200000000000000000000000000000000000000 | ±150000000000.0 | | | | | |
| | 200000000000000000000000000000000000000-500000000000000000000000000000000000000 | ±200000000000.0 | | | | | |
| | 500000000000000000000000000000000000000-1000000000000000000000000000000000000000 | | | | | | |