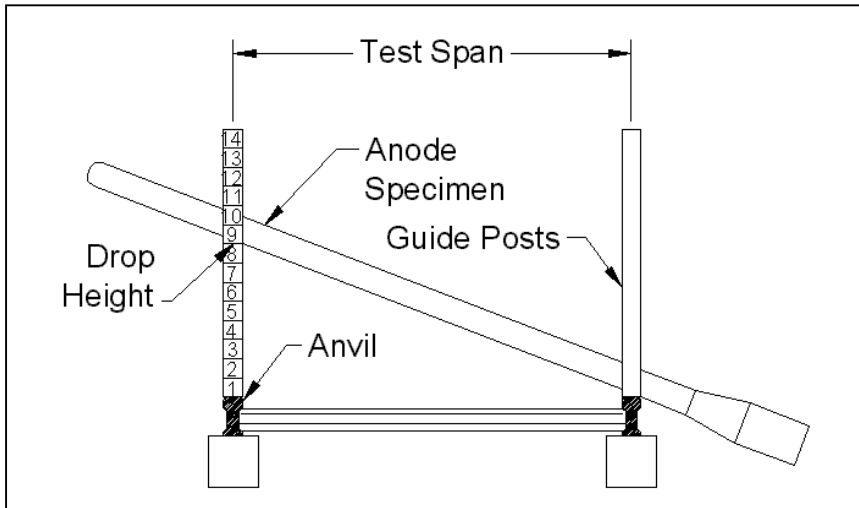


Figure 1: Apparatus for Impact Testing of electrodes



The apparatus shown in Figure 1 is not defined by a Standard but it has proven reliable and useful to establish relative impact resistance.

For example Chill Cast electrodes withstand cumulative drop heights of perhaps 3 or more times the equivalent for Sand Cast electrodes

Refer to Tables 1 and 2.

Table 1: Representative Impact Test Results, Sticks

2" diameter by 60" long, 44 lb solid rod stick anodes.

Successive drop heights		1"	2"	3"	4"	5"	6"	7"	8"	9 to 12.5" limit of apparatus
Sand Cast	10C-20C	OK	OK	FAIL						
	-25C	OK	OK	OK	OK	OK	OK	OK	OK	FAIL

Table 2: Actual Impact Test Results (Chill Cast Tubes)

3" to 4" diameter by 60" long, 62 to 72 lb tubular anodes

Successive drop heights	3"	4"	5"	6"	7"	8"	9"	10"	11"	12.5" limit of apparatus
Traditional Type 3860 0.40" wall thickness 72 lb casting	OK	OK	OK	OK	6" length of one end broke away					
New Type 3860 Z 0.55" wall thickness 62 lb casting	OK	OK	OK	OK	OK	OK	OK	OK	OK	on 25 th repetition at 12.5" 20" broke off

This impact test has been used to evaluate and compare how well high silicon iron anodes withstand cold temperature conditions. Recent tests of Chill Cast stick anodes indicated only modest loss of impact resistance at -25C, as shown in Table 1. Further testing is planned at lower temperatures, to include tubular anodes and cables.