



FISHING TOOLS

NEXT GENERATION MILLING TECHNOLOGY

ITCO-type Spears are designed to engage fish internally when down-hole conditions cannot allow an Overshot to retrieve the fish.

TECHNICAL SPECIFICATIONS

GRAPPLE #	TOOL JOINT OD	TENSILE YIELD	MANDREL OD/ ID	ACTUAL CATCHING RANGE			OLD NOMINAL SIZE (GRAPPLES WERE MARKED WITH THIS DESCRIPTION)
				MINIMUM ID	NOMINAL CATCH SIZE	MAXIMUM ID	
#1230	3.750" 95.25mm	132,000 lbf 58,928 daNs	2.313" (58.75mm)/ 0.375" (9.53mm)	2.28	2.328	2.375	2-3/8" ID
				2.351	2.399	2.446	2-3/8" ID - 2-7/16" ID
				2.39	2.438	2.487	2-7/8" Tbg 6.25 - 6.5# 2-7/8" D.P. 6.45#
				2.468	2.516	2.563	2.562" - 2-15/32" ID
				2.515	2.562	2.61	3-1/2" OD 15.5# D.P.
				2.593	2.641	2.688	2-11/16" - 2-5/8" ID
				2.671	2.718	2.766	3-1/2" OD 13.3 - 12.4# D.P.
				2.7	2.748	2.813	2-13/16" ID & 2-3/4" ID
				2.827	2.875	2.922	3-1/2" OD 10.2 - 11.2# D.P.
				2.843	2.891	2.938	2-7/8" - 2-15/16" ID
				2.89	2.938	2.992	3-1/2" OD 9.20# - 10.20# D.P.
				2.984	3.032	3.079	3-1/2" OD 7.70# Tbg to 8.5# D.P.
				3.03	3.078	3.125	3-1/8" - 3-1/16" ID
				3.155	3.203	3.25	3-1/4" - 3-3/16" ID
				3.297	3.345	3.392	3.340" ID - 3.382" ID 4" OD 12.50# - 15.0# D.P.
				3.437	3.485	3.532	3-1/2" ID