

FRACTIM

An improved machinable air cooled fracture splittable carbon steel for connecting rods.

Features

- Mechanical properties achieved by controlled air cooling following forging
- Tight control of analysis for repeatable properties
- Fracture splittable with minimum rod distortion

Application

Connecting rods

Chemical composition (wt%)

Comparison of typical compositions of FRACTIM and the industry standard C70S6:

	FRACTIM	C70S6
C	0.63	0.73
Mn	0.76	0.54
P	0.042	0.015
S	0.088	0.064
V	0.030	0.030

Strict control of chemical composition and process parameters, achieves consistent mechanical properties following forging and controlled air cooling.

Benefits

- Reduced through costs from air cooling after forging
- Improved machinability giving increased production rates compared with industry standard C70S6

Supply condition & availability

As rolled Rounds up to 100mm

Air cooled mechanical properties

	Min	Max
0.2% Proof Stress ($R_{p0.2}$) MPa	560	-
Tensile Strength (R_m) MPa	850	1000
Elongation (A5%)	10	-
Hardness (HB)	248	302

FRACTIM

Machining Data

Comparison of FRACTIM drilling and tapping test performance with industry standard C70S6:

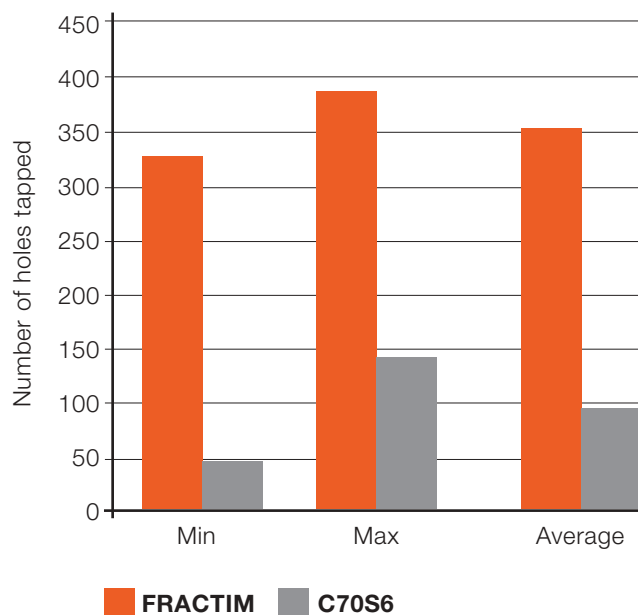
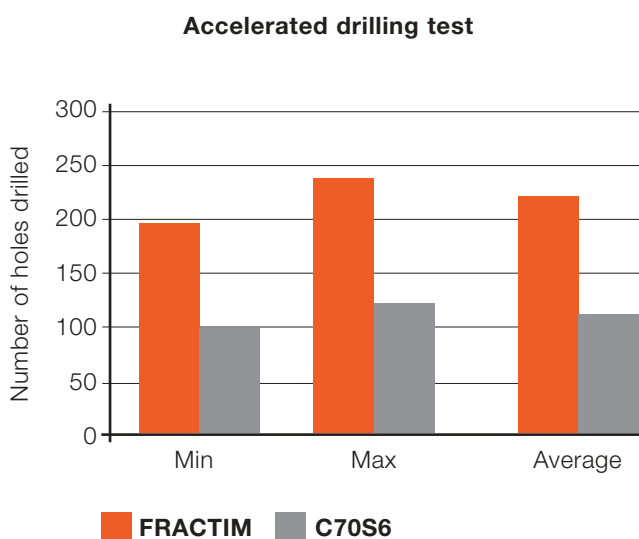
Drilling Test

Condition	Setting
Size of Test Strip	37mm x 18mm x 300mm
Depth of Hole Drilled	18mm Blind
Heat Treatment	1150°C and Air Cool
Hardness :FRACTIM	280 HV30
:C70S6	280 HV30
Drill	HSS
Coating	TiN
Size	6.35mm Diam
Speed	1890rpm
Feed	0.25mm/rev
Coolant	5% Chlorine Free Coolant

Tapping Test

Condition	Setting
Size of Test Strip	37mm x 18mm x 300mm
Depth of Hole Drilled	18mm through hole
Heat Treatment	1150°C and Air Cool
Hardness :FRACTIM	280 HV30
:C70S6	280 HV30
Drill	6.8 Diam Kennametal TiN coated carbide stub drill
Tap	M8 x 1.25 ASP 23 HSS nitrided 3 flute tap
Speed	12.5m/min (500rpm)
Feed	625m/min
Coolant	Houghten Vaughen Type B 300S 5% conc.

Tapping test



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