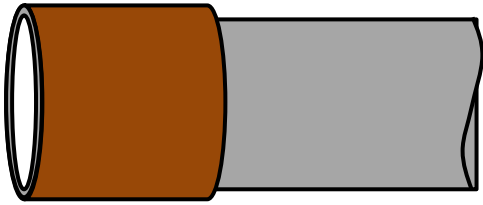
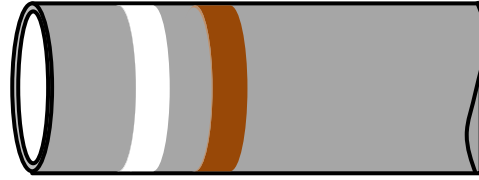


# NT-95DE



Coupling: Brown  
(As per R95 of API 5CT / ISO 11960)



Pipe Body: White, Brown

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## General Description

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NT-95DE is a NIPPON STEEL proprietary Carbon Steel HF-ERW (High-Frequency Electric Resistance Welded) OCTG material. This material provides superior impact toughness properties with YS (Yield Strength) ranging from 95 to 110 ksi and with a guaranteed min. wall thickness 92.5% of specified nominal WT. The high dimensional control & accuracy of wall thickness and outside diameter provide better drift-ability, internal yield pressure (burst) and collapse resistance.

This material is a cost effective alternative to API 5CT / ISO 11960 R95 seamless material.

**OD & Weights:** as per API 5CT/ISO 11960, please refer to Table 1. Material can be delivered in plain end conditions, API Connections or NSMAX™-GR Connections.

**Special application:** Please contact NIPPON STEEL engineers, should you require any specific size, weight, drift or any other information.

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## Reference Document

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- Proprietary NT-DE series: PT-41E (latest revision)
- API 5CT / ISO 11960 ● API 5C3 / ISO 10400 ● API RP 5C1 / ISO 10405
- Data Book for NSMAX™-GR Connection

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## Applicable environment

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<Applications>

- Deep Well ● HPHT Well ● Large Size Well ● Large Size Surface Casing
- Conductor Casing

<Characteristics>

- High Strength and Superior Impact Toughness
- High External and Internal Pressure Resistance
- High Compression Resistance (for application in high temperature well)
- Better Drift-ability

For more detailed assessment please contact NIPPON STEEL engineers.



## Manufacturing

Process	Description
Steel Making	Ladle refined, fully killed and vacuum degassed, continuously cast
Hot Coil Making	Hot rolled to high strength and toughness with a fine grained micro structure by Thermo-Mechanically Controlled Process
Pipe Making	Cold formed, High-Frequency Electric Resistance Welded (HF-ERW)
Heat Treatment	Weld area only (No need "Full body heat-treatment")
Inspection & Testing	Based on API 5CT / ISO 11960(*)

(\*) For specific requirements, please contact NIPPON STEEL engineers.

The manufacturing process of HF-ERW with cold pipe-forming provides high accuracy in wall thickness and ovality control.

Furthermore, NIPPON STEEL has developed state of the art advanced automatic control method of high-frequency welding heat input and automatic NDI system to prevent any weld defects. And integrated process computer system provides total quality control to comply with API / ISO or specific customer's requirements through manufacturing to shipment.

## Chemical Composition

(mass %)

C	Si	Mn	P	S
Max. 0.30	Max. 0.45	Max. 1.90	Max. 0.020	Max. 0.010

## Specified Mechanical Properties

Yield Strength ksi		Tensile Strength ksi	Elongation %	Hardness HRC	Technical Note
Min	Max	Min	Min	Max	Min. Wall Thickness
95	110	105	API Formula	N/A	92.5% of specified WT

Pipe dimensions such as Diameter (D), wall thickness (t) or ovality and mechanical characteristics such as the material Yield Strength are the first parameters dictating tubular External Pressure (Collapse) and Internal Yield Pressure (Burst) resistance.

Table 1 Features NT-95DE performance values and its available selection of pipe sizes.

Pipe OD		Weight (lbs/ft)	Wall Thickness (in.)	Drift (in.)	Min. Internal Yield Pressure (psi)	Collapse Pressure (psi)	Pipe Body Yield Strength (x 1,000 lbs)
(In.)	(mm)						
18	457.20	94.00	0.500	16.812	4,880	1,300	2,611
18	457.20	105.00	0.562	16.688	5,490	1,810	2,925
18	457.20	117.00	0.625	16.562	6,100	2,450	3,241
18	457.20	119.00	0.640	16.532	6,250	2,610	3,316
18	457.20	128.00	0.688	16.500*	6,720	3,180	3,555
18-5/8	473.08	87.50	0.435	17.567	4,100	790	2,362
18-5/8	473.08	94.50	0.468	17.501	4,420	970	2,536
18-5/8	473.08	96.50	0.486	17.500*	4,590	1,080	2,631
18-5/8	473.08	101.00	0.510	17.500*	4,810	1,250	2,757
18-5/8	473.08	106.00	0.531	17.375	5,010	1,400	2,867
18-5/8	473.08	109.40	0.563	17.311	5,310	1,650	3,035
18-5/8	473.08	112.00	0.579	17.279	5,460	1,790	3,118
18-5/8	473.08	115.00	0.594	17.249	5,610	1,930	3,197
18-5/8	473.08	122.00	0.636	17.165	6,000	2,340	3,415
18-5/8	473.08	136.00	0.693	17.051	6,540	2,960	3,709
20	508.00	94.00	0.438	18.936	3,850	650	2,557
20	508.00	106.50	0.500	18.812	4,390	960	2,910
20	508.00	117.00	0.563	18.686	4,950	1,350	3,266
20	508.00	133.00	0.635	18.542	5,580	1,900	3,670
20	508.00	144.00	0.693	18.500*	6,090	2,430	3,993
Performance Equation				*ERW Special Drift	API 5C3 / ISO 10400 (-7.5% WT)	M-Tamano	API 5C3 / ISO 10400

## Storage and Handling Procedure

<Health, Safety and Environment>

While state-of-the-art HSE rules are applied throughout NIPPON STEEL's manufacturing process, it is important that specific HSE policies are applied along the life of the pipe until it reaches its final position in the well. These policies should be developed according to each operator's rules. This applies to all phases of handling, transportation, assembly on the rig floor, and rig return if applicable. OCTG are heavy and by nature unstable. Special attention shall be paid to potential risks of injury whenever handling OCTG.

Walking on pipes shall be avoided at all time. Usage of Personal Protection Equipment (PPE) is mandatory. Equipment and procedures will be established to capture the possible wastes generated during maintenance (cleaning, coating, doping) and disposed according to local regulations. This applies in particular to storage dope, running dope, or cleaning water wastes.

General best practices for transportation, handling and storage of OCTG in general are covered by ISO 10405 / API RP5C1. NSMAX™-GR Recommended Running Manual & Rig Preparation is also a good source of handling practices for NSMAX™-GR Connections.

For more specific information please contact NIPPON STEEL engineers.