

DIN EN ISO 21012:2019-04 (E)

Cryogenic vessels - Hoses (ISO 21012:2018)

Contents		Page
European foreword		4
Annex ZA (informative) Relationship between this European Standard and the Essential requirements of EU Directive 2014/68/EU (Pressure equipment Directive) aimed to be covered		5
Foreword		6
1 Scope		7
2 Normative references		7
3 Terms and definitions		7
4 General requirements		8
4.1 Design and construction		8
4.2 Materials		9
4.3 Cleanliness		9
4.4 Mechanical properties		10
4.4.1 Burst pressure		10
4.4.2 Pressure cycles		10
4.4.3 Bending test (optional, upon request of purchaser)		10
4.4.4 Resistance to abuse		10
4.4.5 Low temperature resistance		10
4.4.6 Leak tightness		10
4.4.7 Electrical properties		10
5 Hose sample tests		10
5.1 General		10
5.2 Non-destructive tests and inspection		12
5.2.1 Documentation of materials		12
5.2.2 Dimensional check		12
5.2.3 Cleanliness check		12
5.2.4 Pressure test		12
5.2.5 Leak test		12
5.2.6 Crushing test		12
5.3 Destructive tests		13
5.3.1 Hydraulic pressure cycling		13
5.3.2 Rolling bend cycling test		13
5.3.3 Hydraulic bursting test		13
5.3.4 Examination of sectional cut		13
6 Production testing		14
6.1 General		14
6.2 Pressure test		14
6.3 Leak test		14
7 Marking		14
8 Cleaning		14
9 Periodic examination		14

10	Test certificate	15
	Annex A (informative) Typical hose assembly	16
	Annex B (informative) Rolling bend cycling test for metallic hose assemblies and hose assemblies made of materials with a record of satisfactory use in cryogenic service	17
	Annex C (informative) Rolling bend cycling test for hose assemblies constructed from materials or composites not commonly used in cryogenic service	19
	Annex D (informative) Guidelines for periodic examination of transfilling hoses	21