

CPC COOPERATIVE PATENT CLASSIFICATION

D TEXTILES; PAPER

TEXTILES OR FLEXIBLE MATERIALS NOT OTHERWISE PROVIDED FOR

D07 ROPES; CABLES OTHER THAN ELECTRIC

D07B ROPES OR CABLES IN GENERAL (joining ropes or cables to one another or to other objects [B65H 69/00](#), [F16G 11/00](#); {mountaineering ropes [A63B 29/02](#)}; mechanical finishing or dressing of ropes [D02J](#); {braiding [D04C](#)}; decorative ropes or cords [D04D](#); suspension cables for bridges [E01D 19/16](#); specially adapted for driving, or for being driven by, pulleys or other gearing elements [F16G 9/00](#); electric cables or joints insofar as electrical aspects are essential [H01B](#), [H01R](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

1/00	Constructional features of ropes or cables	1/10	. . . with a core of wires arranged parallel to the centre line
1/005	. {Composite ropes, i.e. ropes built-up from fibrous or filamentary material and metal wires}	1/12	. Ropes or cables with a hollow core
1/02	. Ropes built-up from fibrous or filamentary material, e.g. of vegetable origin, of animal origin, regenerated cellulose, plastics	1/14	. Ropes or cables with incorporated auxiliary elements, e.g. for marking, extending throughout the length of the rope or cable
1/025	. . {comprising high modulus, or high tenacity, polymer filaments or fibres, e.g. liquid-crystal polymers}	1/141	. . {comprising liquid, pasty or powder agents, e.g. lubricants or anti-corrosive oils or greases}
1/04	. . with a core of fibres or filaments arranged parallel to the centre line	1/142	. . . {for ropes or rope components built-up from fibrous or filamentary material}
1/06	. Ropes or cables built-up from metal wires, e.g. of section wires around a hemp core	1/144	. . . {for cables or cable components built-up from metal wires}
1/0606	. . {Reinforcing cords for rubber or plastic articles}	1/145	. . {comprising elements for indicating or detecting the rope or cable status}
1/0613	. . . {the reinforcing cords being characterised by the rope configuration}	1/147	. . {comprising electric conductors or elements for information transfer (D07B 1/145 takes precedence)}
1/062	. . . {the reinforcing cords being characterised by the strand configuration}	1/148	. . {comprising marks or luminous elements}
1/0626	. . . . {the reinforcing cords consisting of three core wires or filaments and at least one layer of outer wires or filaments, i.e. a 3+N configuration}	1/16	. Ropes or cables with an enveloping sheathing or inlays of rubber or plastics (D07B 1/04 , D07B 1/10 take precedence)
1/0633	. . . . {having a multiple-layer configuration}	1/162	. . {characterised by a plastic or rubber enveloping sheathing}
1/064	. . . . {the reinforcing cords being twisted and with at least one wire exchanging place with another wire}	1/165	. . {characterised by a plastic or rubber inlay}
1/0646	. . . {comprising longitudinally preformed wires}	1/167	. . . {having a predetermined shape}
1/0653	. . . . {in the core}	1/18	. Grommets {(slings B66C 1/12)}
1/066	. . . {the wires being made from special alloy or special steel composition}	1/185	. . {characterised by the eye construction}
1/0666	. . . {the wires being characterised by an anti-corrosive or adhesion promoting coating}	1/20	. Buoyant ropes, e.g. with air-filled cellular cores; Accessories therefor
1/0673	. . {having a rope configuration}	1/22	. Flat or flat-sided ropes; Sets of ropes consisting of a series of parallel ropes
1/068	. . . {characterised by the strand design}	1/24	. {Ropes or cables with a prematurely failing element}
1/0686	. . . {characterised by the core design}		
1/0693	. . {having a strand configuration}		
1/08	. . the layers of which are formed of profiled interlocking wires, i.e. the strands forming concentric layers {(D07B 1/0606 takes precedence)}		
		<u>Manufacture of ropes or cables</u>	
		3/00	General-purpose machines or apparatus for producing twisted ropes or cables from component strands of the same or different material
		3/005	. {with alternating twist directions}

- 3/02 . . in which the supply reels rotate about the axis of the rope or cable {or in which a guide member rotates about the axis of the rope or cable to guide the component strands away from the supply reels in fixed position}
 - 3/022 . . {with provision for imparting two or more twists to the filaments for each revolution of the guide member}
 - 3/04 . . and are arranged in tandem along the axis of the machine {, e.g. tubular or high-speed type stranding machine}
 - 3/045 . . . {with the reels axially aligned, their common axis coinciding with the axis of the machine}
 - 3/06 . . and are spaced radially from the axis of the machine {, i.e. basket or planetary-type stranding machine}
 - 3/08 . . in which the take-up reel rotates about the axis of the rope or cable {or in which a guide member rotates about the axis of the rope or cable to guide the rope or cable on the take-up reel in fixed position} and the supply reels are fixed in position
 - 3/085 . . {in which a guide member rotates about the axis of the rope or cable to guide the rope or cable on the take-up reel in fixed position}
 - 3/10 . . with provision for imparting more than one complete twist to the ropes or cables for each revolution of the take-up reel {or of the guide member}
 - 3/103 . . . {characterised by the bow construction}
 - 3/106 . . . {characterised by comprising two bows, both guiding the same bundle to impart a twist}
 - 3/12 . . operating with rotating loops of filaments
 - 3/14 . . hand-operated
 - 5/00 Making ropes or cables from special materials or of particular form**
 - 5/002 . . {Making parallel wire strands}
 - 5/005 . . {characterised by their outer shape or surface properties}
 - 5/006 . . . {by the properties of an outer surface polymeric coating}
 - 5/007 . . {comprising postformed and thereby radially plastically deformed elements}
 - 5/02 . . from straw or like vegetable material
 - 5/04 . . Rope bands
 - 5/045 . . . {Belts comprising additional filaments for laterally interconnected load bearing members}
 - 5/06 . . from natural or artificial staple fibres
 - 5/08 . . agglutinated by adhesives
 - 5/10 . . from strands of non-circular cross-section
 - 5/12 . . of low twist or low tension by processes comprising setting or straightening treatments
 - 7/00 Details of, or auxiliary devices incorporated in, rope- or cable-making machines; Auxiliary apparatus associated with such machines**
 - 7/02 . . Machine details; Auxiliary devices
 - 7/021 . . . {Guiding means for filaments, strands, ropes or cables}
 - 7/022 . . . {Measuring or adjusting the lay or torque in the rope}
 - 7/025 . . . {Preforming the wires or strands prior to closing}
 - 7/027 . . . {Postforming of ropes or strands}
 - 7/04 . . Devices for imparting reverse rotation to bobbin- or reel cages
 - 7/06 . . . Bearing supports or brakes for supply bobbins or reels
 - 7/08 . . . Alarms or stop motions responsive to exhaustion or breakage of filamentary material fed from supply reels or bobbins
 - 7/10 . . . Devices for taking-up or winding the finished rope or cable
 - 7/12 . . . for softening, lubricating or impregnating ropes, cables, or component strands thereof
 - 7/14 . . . for coating or wrapping ropes, cables, or component strands thereof (applying liquids or other fluent materials to surfaces in general [B05](#); wrapping elongated cores in general [B65H 81/06](#))
 - 7/145 {Coating or filling-up interstices}
 - 7/16 . . Auxiliary apparatus
 - 7/162 . . . {Vices or clamps for bending or holding the rope or cable during splicing}
 - 7/165 . . . {for making slings}
 - 7/167 . . . {for joining rope components}
 - 7/169 . . . {for interconnecting two cable or rope ends, e.g. by splicing or sewing (fixation or holding of the ends prior to or during splicing [D07B 7/162](#); joining the rope or cable components individually or joining the rope ends by permanent means such as welding, gluing or crimp sleeve [D07B 7/167](#); preparing the splice by opening the ends [D07B 7/18](#))}
 - 7/18 . . . for spreading or untwisting ropes or cables into constituent parts for treatment or splicing purposes
 - 7/182 {for spreading ropes or cables by hand-operated tools for splicing purposes, e.g. needles or spikes}
 - 7/185 {for temporarily untwisting ropes or cables into constituent parts for applying a coating}
 - 7/187 {for forming bulbs in ropes or cables}
 - 9/00 Binding or sealing ends, e.g. to prevent unravelling**
 - 9/001 . . {combined with cutting or severing}
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- 2201/00 Ropes or cables**
 - 2201/10 . . Rope or cable structures
 - 2201/1004 . . . General structure or appearance
 - 2201/1008 Several parallel ropes
 - 2201/1012 . . . characterised by their internal structure
 - 2201/1014 characterised by being laid or braided from several sub-ropes or sub-cables, e.g. hawsers
 - 2201/1016 characterised by the use of different strands
 - 2201/102 including a core
 - 2201/1024 . . . Structures that change the cross-sectional shape
 - 2201/1028 . . . characterised by the number of strands
 - 2201/1032 three to eight strands respectively forming a single layer
 - 2201/1036 nine or more strands respectively forming multiple layers
 - 2201/104 . . . twisted
 - 2201/1044 characterised by a value or range of the pitch parameter given
 - 2201/1048 using regular lay, i.e. the wires or filaments being parallel to rope axis
 - 2201/1052 using lang lay, i.e. the wires or filaments being inclined relative to the rope axis

2201/1056	. . .	using alternate lay, i.e. the wires or filaments in the strands being oppositely inclined relative to the rope axis	2201/2039	. . . .	three to eight wires or filaments respectively forming a single layer
2201/106	. . .	Pitch changing over length	2201/204	. . . .	nine or more wires or filaments respectively forming multiple layers
2201/1064	. . .	characterised by lay direction of the strand compared to the lay direction of the wires in the strand	2201/2041	. . .	characterised by the materials used
2201/1068	. . . .	having the same lay direction	2201/2042	. . .	characterised by a coating
2201/1072	. . .	Compact winding, i.e. S/S or Z/Z	2201/2043	. . . .	comprising metals
2201/1076	. . .	Open winding	2201/2044	. . . .	comprising polymers
2201/108	. . . .	Cylinder winding, i.e. S/Z or Z/S	2201/2045	. . . .	comprising multiple layers
2201/1084	. . . .	Different twist pitch	2201/2046	. . .	comprising fillers
2201/1088	. .	false twisted	2201/2047	. .	Cores
2201/1092	. .	Parallel strands	2201/2048	. . .	characterised by their cross-sectional shape
2201/1096	. .	braided	2201/2049	. . . .	having protrusions extending radially functioning as spacer between strands or wires
2201/20	. .	Rope or cable components	2201/2051	. . .	characterised by a value or range of the dimension given
2201/2001	. .	Wires or filaments	2201/2052	. . .	characterised by their structure
2201/2002	. . .	characterised by their cross-sectional shape	2201/2053	. . . .	being homogeneous
2201/2003	. . . .	flat	2201/2054	. . . . .	comprising foam material
2201/2004	. . . .	triangular	2201/2055	. . . .	comprising filaments or fibers
2201/2005	. . . .	oval	2201/2056	. . . . .	arranged parallel to the axis
2201/2006	. . .	characterised by a value or range of the dimension given	2201/2057	. . . . .	resulting in a twisted structure
2201/2007	. . .	characterised by their longitudinal shape	2201/2058	. . . . .	comprising fillers
2201/2008	. . . .	wavy or undulated	2201/2059	. . . .	comprising wires
2201/2009	. . .	characterised by the materials used	2201/206	. . . . .	arranged parallel to the axis
2201/201	. . .	characterised by a coating	2201/2061	. . . . .	resulting in a twisted structure
2201/2011	. . . .	comprising metals	2201/2062	. . . . .	comprising fillers
2201/2012	. . . .	comprising polymers	2201/2063	. . . .	being hollow
2201/2013	. . . .	comprising multiple layers	2201/2064	. . . .	being discontinuous in the longitudinal direction
2201/2014	. . .	Compound wires or compound filaments	2201/2065	. . . .	comprising a coating
2201/2015	. .	Strands	2201/2066	. . .	characterised by the materials used
2201/2016	. . .	characterised by their cross-sectional shape	2201/2067	. . .	characterised by the elongation or tension behaviour
2201/2017	. . . .	triangular	2201/2068	. . . .	having a load bearing function
2201/2018	. . . .	oval	2201/2069	. . . .	being elastic
2201/2019	. . .	pressed to shape	2201/207	. . . .	being viscous
2201/202	. . .	characterised by a value or range of the dimension given	2201/2071	. .	Spacers
2201/2021	. . .	characterised by their longitudinal shape	2201/2072	. . .	characterised by the materials used
2201/2022	. . .	coreless	2201/2073	. . .	in circumferencial direction
2201/2023	. . .	with core	2201/2074	. . .	in radial direction
2201/2024	. . .	twisted	2201/2075	. .	Fillers
2201/2025	. . . .	characterised by a value or range of the pitch parameter given	2201/2076	. . .	having a lubricant function
2201/2026	. . . .	Pitch changing over length	2201/2077	. . .	having an anti-corrosive function
2201/2027	. . . .	Compact winding	2201/2078	. . .	having a load bearing function
2201/2028	. . . . .	having the same lay direction and lay pitch	2201/2079	. . .	characterised by the kind or amount of filling
2201/2029	. . . .	Open winding	2201/208	. . . .	having an open structure
2201/203	. . . . .	Cylinder winding, i.e. S/Z or Z/S	2201/2081	. . . .	having maximum filling
2201/2031	. . . . .	Different twist pitch	2201/2082	. . .	characterised by the materials used
2201/2032	. . . . .	compared with the core	2201/2083	. .	Jackets or coverings
2201/2033	. . .	Parallel wires	2201/2084	. . .	characterised by their shape
2201/2034	. . .	comprising crossing wires or filaments in the same layer	2201/2085	. . . .	concerning the internal shape
2201/2035	. . .	false twisted	2201/2086	. . . .	concerning the external shape
2201/2036	. . .	characterised by the use of different wires or filaments	2201/2087	. . .	being of the coated type
2201/2037	. . . .	regarding the dimension of the wires or filaments	2201/2088	. . .	having multiple layers
2201/2038	. . .	characterised by the number of wires or filaments	2201/2089	. . .	comprising wrapped structures
			2201/209	. . .	comprising braided structures
			2201/20903	. . .	comprising woven structures
			2201/20907	. . .	comprising knitted structures
			2201/2091	. . .	being movable relative to the internal structure
			2201/2092	. . .	characterised by the materials used

2201/2093	. . . . being translucent	2205/3057	. . . . . having a high carbon content, e.g. greater than 0,8 percent respectively SHT or UHT wires
2201/2094	. . . . being luminescent or reflective	2205/306	. . . Aluminium (Al)
2201/2095	. . Auxiliary components, e.g. electric conductors or light guides	2205/3064	. . . Chromium (Cr)
2201/2096	. . . Light guides	2205/3067	. . . Copper (Cu)
2201/2097	. . . Binding wires	2205/3071	. . . Zinc (Zn)
2201/2098	. . . . characterized by special properties or the arrangements of the binding wire	2205/3075	. . . Tin (Sn)
2205/00	Rope or cable materials	2205/3078	. . . Lead (Pb)
2205/10	. Natural organic materials	2205/3082	. . . Tungsten (W)
2205/103	. . Animal and plant materials	2205/3085	. . . Alloys, i.e. non ferrous
2205/106	. . . Manila, hemp or sisal	2205/3089	. . . . Brass, i.e. copper (Cu) and zinc (Zn) alloys
2205/20	. Organic high polymers	2205/3092	. . . . Zinc (Zn) and tin (Sn) alloys
2205/2003	. . Thermoplastics	2205/3096	. . . Amorphous metals
2205/2007	. . Duroplastics	2205/40	. Superconductive materials
2205/201	. . Polyolefins	2205/405	. . Ceramic superconductor
2205/2014	. . . High performance polyolefins, e.g. Dyneema or Spectra	2205/50	. Lubricants
2205/2017	. . Polystyrenes	2205/502	. . Oils
2205/2021	. . Polyvinyl halides	2205/505	. . Greases
2205/2025	. . Polyvinyl acetates	2205/507	. . Solid lubricants
2205/2028	. . Polyvinyl alcohols	2207/00	Rope or cable making machines
2205/2032	. . Polyacrylics	2207/20	. Type of machine
2205/2035	. . Polyacetals	2207/201	. . Manually operated systems
2205/2039	. . Polyesters	2207/202	. . Double twist unwinding
2205/2042	. . . High performance polyesters, e.g. Vectran	2207/203	. . . comprising flyer
2205/2046	. . Polyamides, e.g. nylons	2207/204	. . Double twist winding
2205/205	. . . Aramides	2207/205	. . . comprising flyer
2205/2053	. . . . Polybenzimidazol [PBI]	2207/206	. . . with means for providing less than double twist, e.g. counter rotating means
2205/2057	. . Phenol resins	2207/207	. . Sequential double twisting devices
2205/206	. . Epoxy resins	2207/208	. . . characterised by at least partially unwinding the twist of the upstream double twisting step
2205/2064	. . Polyurethane resins	2207/209	. . Tubular strander
2205/2067	. . Viscose or regenerated cellulose, e.g. Rayon	2207/40	. Machine components
2205/2071	. . Fluor resins	2207/4004	. . Unwinding devices
2205/2075	. . Rubbers, i.e. elastomers	2207/4009	. . . over the head
2205/2078	. . . being of natural origin	2207/4013	. . . comprising flyer
2205/2082	. . . being of synthetic nature, e.g. chloroprene	2207/4018	. . Rope twisting devices
2205/2085	. . having particular high polymer characteristics	2207/4022	. . . characterised by twisting die specifics
2205/2089	. . . showing heat contraction	2207/4027	. . . . including a coating die
2205/2092	. . . related to water solubility	2207/4031	. . Winding device
2205/2096	. . Poly-p-phenylenebenzo-bisoxazole [PBO]	2207/4036	. . . comprising traversing means
2205/30	. Inorganic materials	2207/404	. . Heat treating devices; Corresponding methods
2205/3003	. . Glass	2207/4045	. . . to change the crystal structure of the load bearing material
2205/3007	. . Carbon	2207/405	. . . to heat towards the glass transition temperature of the load bearing material
2205/301	. . Ceramics	2207/4054	. . . to soften the load bearing material
2205/3014	. . Asbestos	2207/4059	. . . to soften the filler material
2205/3017	. . Silicon carbides	2207/4063	. . . for stress relief
2205/3021	. . Metals	2207/4068	. . . for curing
2205/3025	. . . Steel	2207/4072	. . Means for mechanically reducing serpentining or mechanically killing of rope
2205/3028	. . . . Stainless steel	2207/4077	. . Safety devices
2205/3032	. . . . Austenite	2207/4081	. . . comprising means for stopping or shutting down the machine
2205/3035	. . . . Pearlite	2207/4086	. . . providing warnings
2205/3039	. . . . Martensite	2207/409	. . Drives
2205/3042	. . . . Ferrite	2207/4095	. . . Control means therefor
2205/3046	. . . . characterised by the carbon content	2301/00	Controls
2205/305	. . . . . having a low carbon content, e.g. below 0,5 percent respectively NT wires	2301/10	. Open loop
2205/3053	. . . . . having a medium carbon content, e.g. greater than 0,5 percent and lower than 0.8 percent respectively HT wires		

2301/15	. Closed loop	2301/554	. . . for measuring variable resistance
2301/155	. . being of the extended closed loop control system type, e.g. using models or more than one signal in the feedback loop	2301/5545	. . . and piezoelectric phenomena
2301/20	. Controller types	2301/555	. . . for measuring magnetic properties
2301/201	. . proportional	2301/5554	. . . for measuring capacitance
2301/202	. . integrative	2301/5559	. . . for measuring inductance
2301/204	. . differential	2301/5563	. . . for measuring temperature, i.e. thermocouples
2301/205	. . Programmable controllers; Calculating or controlling methods	2301/5568	. . . acoustic or ultrasonic
2301/207	. . . Fuzzy logic	2301/5572	. . . optical
2301/208	. . . using timing functions	2301/5577	. . . using light guides
2301/25	. System input signals, e.g. set points	2301/5581	. . . using cameras
2301/251	. . Twist	2301/5586	. . . using lasers
2301/252	. . Temperature	2301/559	. . . for pressure
2301/253	. . . Temperature profile or sequence	2301/5595	. . . for force
2301/254	. . Amount of material		
2301/255	. . Power consumption of drive	2401/00	Aspects related to the problem to be solved or advantage
2301/256	. . Pressure	2401/20	. related to ropes or cables
2301/257	. . Force	2401/2005	. . Elongation or elasticity
2301/258	. . Tensile stress	2401/201	. . . regarding structural elongation
2301/259	. . Strain or elongation	2401/2015	. . Killing or avoiding twist
2301/30	. Signals indicating failure or excessive conditions, e.g. overheating	2401/202	. . Environmental resistance
2301/302	. . Temperature	2401/2025	. . . avoiding corrosion
2301/305	. . Wear or friction	2401/203	. . . Low temperature resistance
2301/307	. . Breakage of wire or strand or rope	2401/2035	. . . High temperature resistance
2301/35	. System output signals	2401/204	. . . Moisture handling
2301/3508	. . Twist	2401/2045	. . Avoiding longitudinal load for covering
2301/3516	. . Temperature	2401/205	. . Avoiding relative movement of components
2301/3525	. . . Temperature profile or sequence	2401/2055	. . Improving load capacity
2301/3533	. . Amount of material	2401/206	. . Improving radial flexibility
2301/3541	. . Power consumption of drive	2401/2065	. . Reducing wear
2301/355	. . Pressure	2401/207	. . . internally
2301/3558	. . Force	2401/2075	. . . externally
2301/3566	. . Tensile stress	2401/208	. . Enabling filler penetration
2301/3575	. . Strain or elongation	2401/2085	. . Adjusting or controlling final twist
2301/3583	. . Rotational speed	2401/209	. . . comprising compensation of rope twist in strand twist
2301/3591	. . Linear speed	2401/2095	. . Improving filler wetting respectively or filler adhesion
2301/40	. Feedback signal in closed loop controls	2401/40	. related to rope making machines
2301/4008	. . Twist	2401/401	. . Reducing wear
2301/4016	. . Temperature	2401/403	. . Reducing vibrations
2301/4025	. . . Temperature profile or sequence	2401/405	. . Addressing space constraints
2301/4033	. . Amount of material	2401/406	. . Increasing speed
2301/4041	. . Power consumption of drive	2401/408	. . Increasing rope length, e.g. on drum
2301/405	. . Pressure		
2301/4058	. . Force	2501/00	Application field
2301/4066	. . Tensile stress	2501/20	. related to ropes or cables
2301/4075	. . Strain or elongation	2501/2007	. . Elevators
2301/4083	. . Rotational speed	2501/2015	. . Construction industries
2301/4091	. . Linear speed	2501/2023	. . . Concrete enforcements
2301/45	. for diagnosing	2501/203	. . . Bridges
2301/50	. User Interface or value setting	2501/2038	. . Agriculture, forestry and fishery
2301/55	. Sensors	2501/2046	. . Tyre cords
2301/5504	. . characterised by their arrangement	2501/2053	. . . for wheel rim attachment
2301/5509	. . . being movable	2501/2061	. . Ship moorings
2301/5513	. . . being of the reflective type	2501/2069	. . Climbing or tents
2301/5518	. . . . Transducers therefor	2501/2076	. . Power transmissions
2301/5522	. . . being of the barrier type	2501/2084	. . Mechanical controls, e.g. door lashes
2301/5527	. . . comprising an array or multiple sensors	2501/2092	. . Evacuation lines or lifelines
2301/5531	. . using electric means or elements	2501/40	. related to rope or cable making machines
2301/5536	. . . for measuring electrical current	2501/403	. . for making belts
		2501/406	. . for making electrically conductive cables

2801/00 Linked indexing codes associated with indexing codes or classes of [D07B](#)

NOTE

The following indexing codes are applied as linked indexing codes associated to other indexing codes or classes of [D07B](#), with the following restrictions:

- [D07B 2801/10](#), [D07B 2801/14](#) -[D07B 2801/22](#) are only to be used as linked indexing codes with [D07B 2205/00](#) and lower hierarchy
- [D07B 2801/12](#) and [D07B 2801/24](#) are only to be used as linked indexing codes with [D07B 2205/00](#) and lower hierarchy or [D07B 2201/2047](#) and lower hierarchy
- [D07B 2801/60](#) and [D07B 2801/62](#) are only to be used as linked indexing codes with [D07B 2207/404](#) and lower hierarchy
- [D07B 2801/90](#) is only used as linked indexing code with any class or indexing code of [D07B](#) and defines that the classified feature belongs to the general knowledge.

- [2801/10](#) . Smallest elementary entity of a rope or strand, i.e. wire, filament, fiber or yarn
- [2801/12](#) . Strand
- [2801/14](#) . Core
- [2801/16](#) . Filler
- [2801/18](#) . Coating
- [2801/20](#) . Spacer
- [2801/22](#) . Jacket or covering
- [2801/24](#) . Rope
- [2801/60](#) . Method
- [2801/62](#) . Device
- [2801/90](#) . General knowledge