FED13, FED14, FED15, FED16: Material input for strip steel
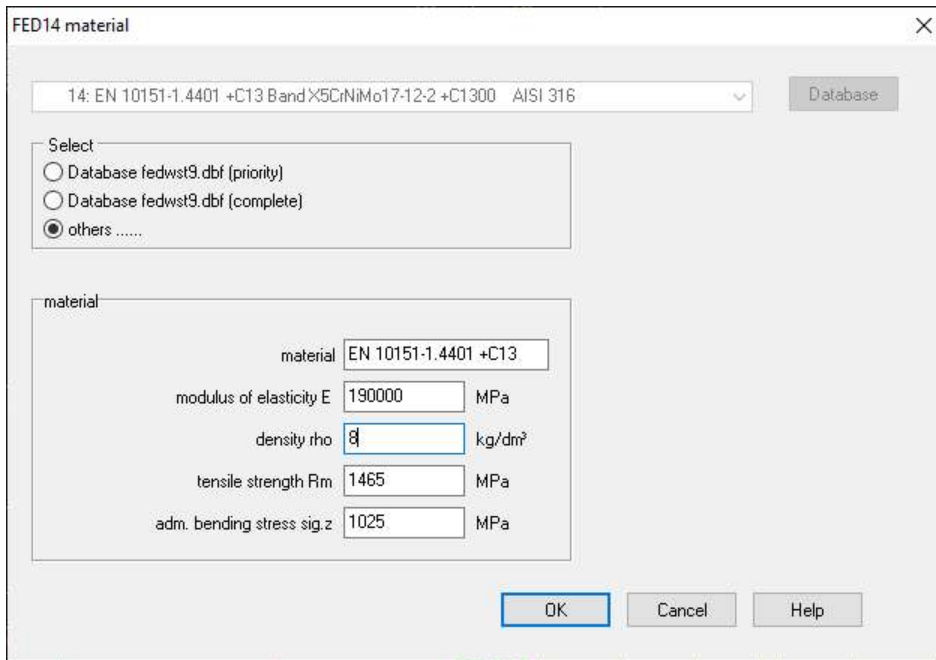

Similar to wire springs, you can now select the spring strip material from the database or enter the material data for leaf springs, wave springs and constant force springs. If you want to limit the selection from the database, you can mark the unwanted materials under "Database\Material" with the "-" button for deletion (but not delete/pack!), then they will no longer be displayed in the database (priority). As long as you don't change anything, option 1 and 2 are the same. If you choose "others", you can enter the data yourself. Note that this data is only valid for the corresponding strip thickness and that no Goodman diagram for fatigue strength can then be displayed.

WL1+ Material Data to DIN 743

TAB_A	NAME	NORM	TYP	ZUSTAND	INFO1	INFO2	SIGMA_B	SIGMA_S	SIGMA_ZDW	SIGMA_BW	TAU_TW	E_
1	S235JR	EN 10025	Baustahl		1.0037	St 37-2	360	235	145	180	110	
1	S275JR	EN 10025	Baustahl		1.0044	St 44-2	410	275	165	205	125	
1	E295	EN 10025	Baustahl		1.0050	St 50-2	470	295	190	235	140	
1	S355JO	EN 10025	Baustahl		1.0553	St 52-3	470	355	190	235	140	
1	E335	EN 10025	Baustahl		1.0060	St 60-2	570	335	230	285	170	
1	E360	EN 10025	Baustahl		1.0070	St 70-2	670	360	270	335	200	

The strength values of structural steel in the MAT_743 material database have been adapted to DIN 743-3 Ber 1:2014-12

SR1 / SR1+: Lateral stiffness and lateral displacement to DIN 25201-4:2021 added

DIN 25201-4		
a		12
uq	mm	0,024
uq,kons	mm	0,052
uq,zul	mm	0,050
uq,max	mm	0,100
S uq		0,52

In SR1 and SR1+, the lateral displacements uq due to bending of the bolt and the conservatively permissible lateral displacement uq,kons are now also calculated and printed out in accordance with the new DIN 25201-4:2021-11 for shear forces. Warning if uq < uq,cons. These values are only required if lateral displacement is permitted under static stress. The safety SG according to VDI 2230 is less than 1 for this case. If the clamping plates move, the transverse displacement of the screw according to DIN 25201-4 is calculated as a girder firmly clamped on both sides.

$uq = FQ*lk^3 / (a*E*I)$
a=stiffness factor a=12 (firmly clamped on both sides) to a=3 (firmly clamped on one side)
FQ=shear force, lk=clamp length, E=modulus of elasticity, I=bending moment of inertia of the bolt
uq,kons with FQ = FM,min * μK,min
Additionally, SR1 calculates
uq,perm with FQ = FKR,min * μT,min)

The sliding distance uq is limited by the bore of the clamping plates or by the positive fit. You can enter the design-related maximum glide distance "uq,max".
From this, SR1+ calculates a safety margin "S uq = uq,kons / uq,max". Error messages are only displayed if the safety SG (gliding) is less than 1.

```
DIN 25201-4:2021
===========================================================================
Stiffness coefficient            a                           12
---------------------------------------------------------------------------
Lateral displacement (FQ)        uq        mm                0,024
---------------------------------------------------------------------------
Lateral displacement perm (FMreq) uq,kons  mm                0,052
---------------------------------------------------------------------------
Lateral displacement perm (FMzul) uq,zul   mm                0,050
---------------------------------------------------------------------------
Max. backlash of bolt in hole    uq,max    mm                0,100
---------------------------------------------------------------------------
Safety uq,kons / uq,max          S uq                        0,52
---------------------------------------------------------------------------
```

FED19 – Conical Springs of spring strip

Conical springs made of spring strip are known in a light version as springs for pruning shears (biconical) and in a heavy version as buffer springs for railways. From an energy point of view, helical compression springs with a rectangular cross-section make little sense. But if you need long, slender compression springs that must not buckle, such springs are the first choice. Or if you need a compression spring with a progressive characteristic and hysteresis.

Similar to a conical spring made of round wire, the spring characteristic is progressive because the large coils touch the ground one after the other. The windings twist under load, which creates friction between the lateral surfaces and thus a hysteresis in the spring characteristic. The stress is usually static. Because of the friction between the coils, such springs are rather unsuitable for dynamic applications.
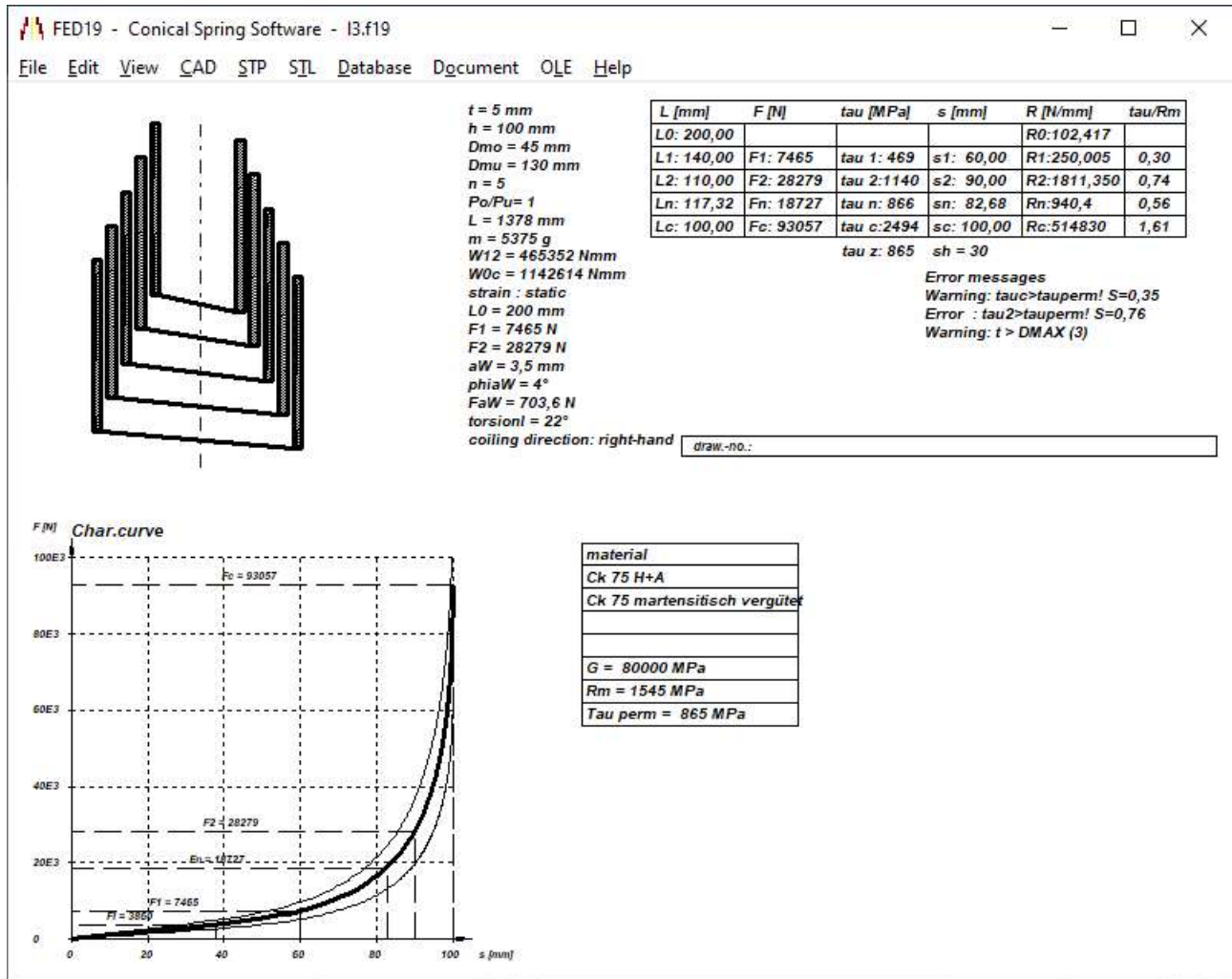
FED19 is expected to be available from April 2022.

Java Log4j Libraries

HEXAGON Software does not use Java and is therefore not affected by the log4j vulnerability. You can use HEXAGON software as an isolated solution on a computer without internet and without any network connection. Java is the programming language of Internet programs and runs on the Internet browsers Microsoft Edge, Google Chrome, Mozilla Firefox, etc. Software that runs directly on the web (on an external web server) usually uses Java as the programming language. JavaScript, which is executed directly by the web browser, is sufficient for smaller projects and form entries. A small pocket calculator with a unit converter as a JavaScript program (with source code, does not use Java) can be found at www.hexagon.de/calc.htm.

The website www.hexagon.de does not use Java or cookies either. Javascript is used for the old ordering program, which runs directly on your web browser. There is no access to the web server, so you cannot send the order, but have to print it out and send it by e-mail. The new order program also only generates the text for an email order. You have to send the order yourself in your own email program. With HEXAGON software, you have maximum security when it comes to data protection.

Corona Calculation

Corona strategy and corona numbers from Denmark are interesting:

February 1, 2022: Denmark lifts all corona restrictions. The reason is the high vaccination rate (60% of the population was boosted, 80% vaccinated twice) and the low number of hospital admissions. The 7-day incidence is at a high of 5000, i.e. 5% of the population has been newly infected with Corona in just one week. The infection rate is 30%. Since then, the incidence has remained constant at 5,000 for a long time, and on 22.2.22 the infection rate was already 45%. So there are more than twice as many recovered as unvaccinated.

Corona Experiences

In January 2022 we had Corona in the family. The omicron variant according to the PCR test. So everyone in quarantine. Most of us had mild cold symptoms at the time: runny nose, sore throat, cough, slight fever. Only two out of eight family members took a PCR test, the others stayed at home in quarantine. Was that COVID-19? With a harmless course of the disease, although everyone has not been vaccinated? Then we hope that the omicron variant will continue to dominate Corona.

Respect for You (Election campaign by Olaf Scholz)

Respect for you, but only if you get vaccinated.

Don't play with the unvaccinated, don't sing their songs.

Beware of lateral thinkers (Querdenker).

Don't walk with anti-vaccination people.

In Germany, politicians and state broadcasters are relentlessly pushing for compulsory vaccination. One could almost think that this was injected into them. The majority of the population crumbles in favor of compulsory vaccination, proportional to the number of people who have been vaccinated 3 times and 4 times. Only 55% of the population are "boosted", and the readiness for a fourth vaccination is even lower.

Only with the start of the Ukraine war on February 24, 2022 does the corona debate disappear and what is really important is discussed.

Expending Horizons

"There will be no eastward expansion of NATO". That's what Moscow wanted to hear from the West. Why don't they just say that then? Just as they once claimed "There will be no compulsory vaccination in a free country".

HEXAGON PRICE LIST 2022-03-01

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